

Appl. No. 09/887,759
 Amendment Dated July 1, 2005
 Reply to OA Mailed March 3, 2005
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BOX A: BASIC DESCRIPTION OF OUR MODEL

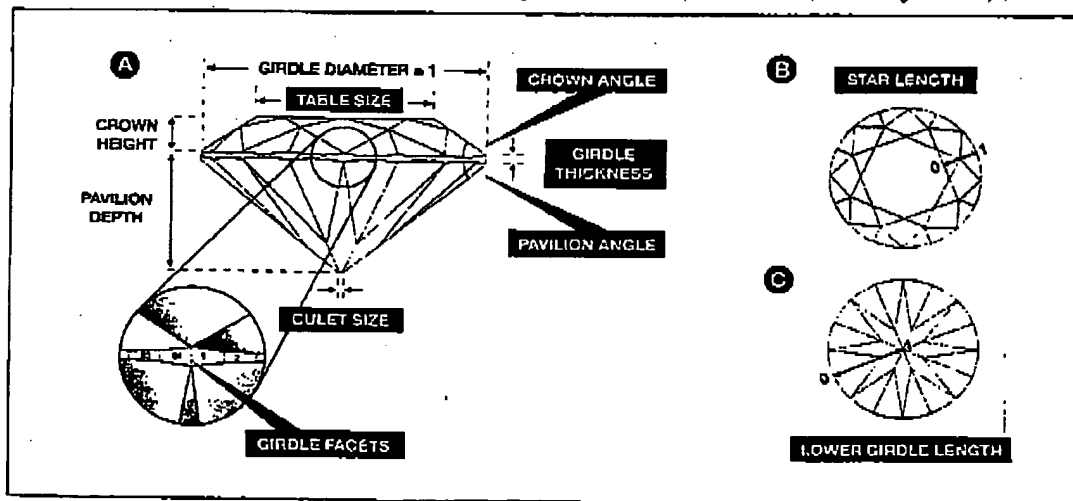
We describe a faceted diamond as a convex polyhedron, a three-dimensional object with a surface that is bounded by flat planes and straight edges, with no indentations or clefts. The model requires that all surfaces be faceted, including the girdle, and currently excludes consideration of indented naturals or cavities. To date, we have focused our calculations on the round brilliant cut because of its dominant position in the market, but this model can be used for nearly any fully faceted shape. Our modeled round brilliant has mathematically perfect symmetry, that is, all facets are perfectly shaped, pointed, and aligned. Also, all facet junctions are modeled with the same sharpness and depth.

Because our modeled round brilliant has perfect eight-fold symmetry, only eight numbers (parameters) are required to specify the convex polyhedron that describes its shape (figure A-1). (Modeling other shapes or including asymmetries requires additional parameters.) We defined these eight parameters as:

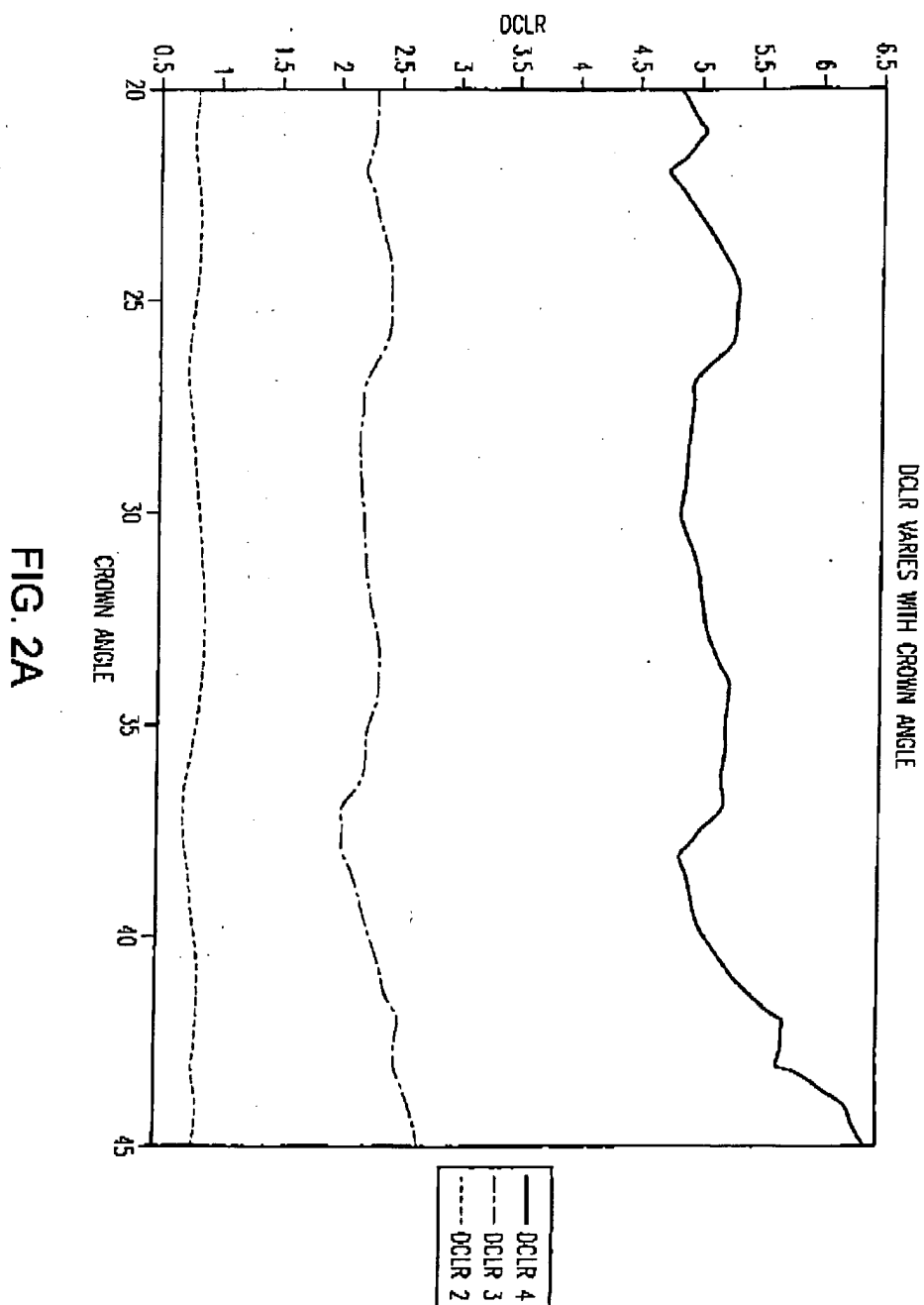
Crown angle	Angle (in degrees) between the bezel facets and the girdle plane
Pavilion angle	Angle (in degrees) between the pavilion mains and the girdle plane
Table size	Table width (as percent of girdle diameter)
Culet size	Culet width (as percent of girdle diameter)
Star length	The ratio of the length of the star facets to the distance between the table edge and girdle edge
Lower-girdle length	The ratio of the length of the lower-girdle facets to the distance between the center of the culet and girdle edge
Girdle thickness	Measured between bezel and pavilion main facets (the thick part of the girdle) and expressed as a percentage of girdle diameter. This differs from the typical use of the term <i>girdle thickness</i> (see, e.g., <i>GIA Diamond Dictionary</i> , 1993)
Girdle facets	Total number of girdle facets

Other proportions, such as the crown height, pavilion depth, and total depth (expressed as percentages of

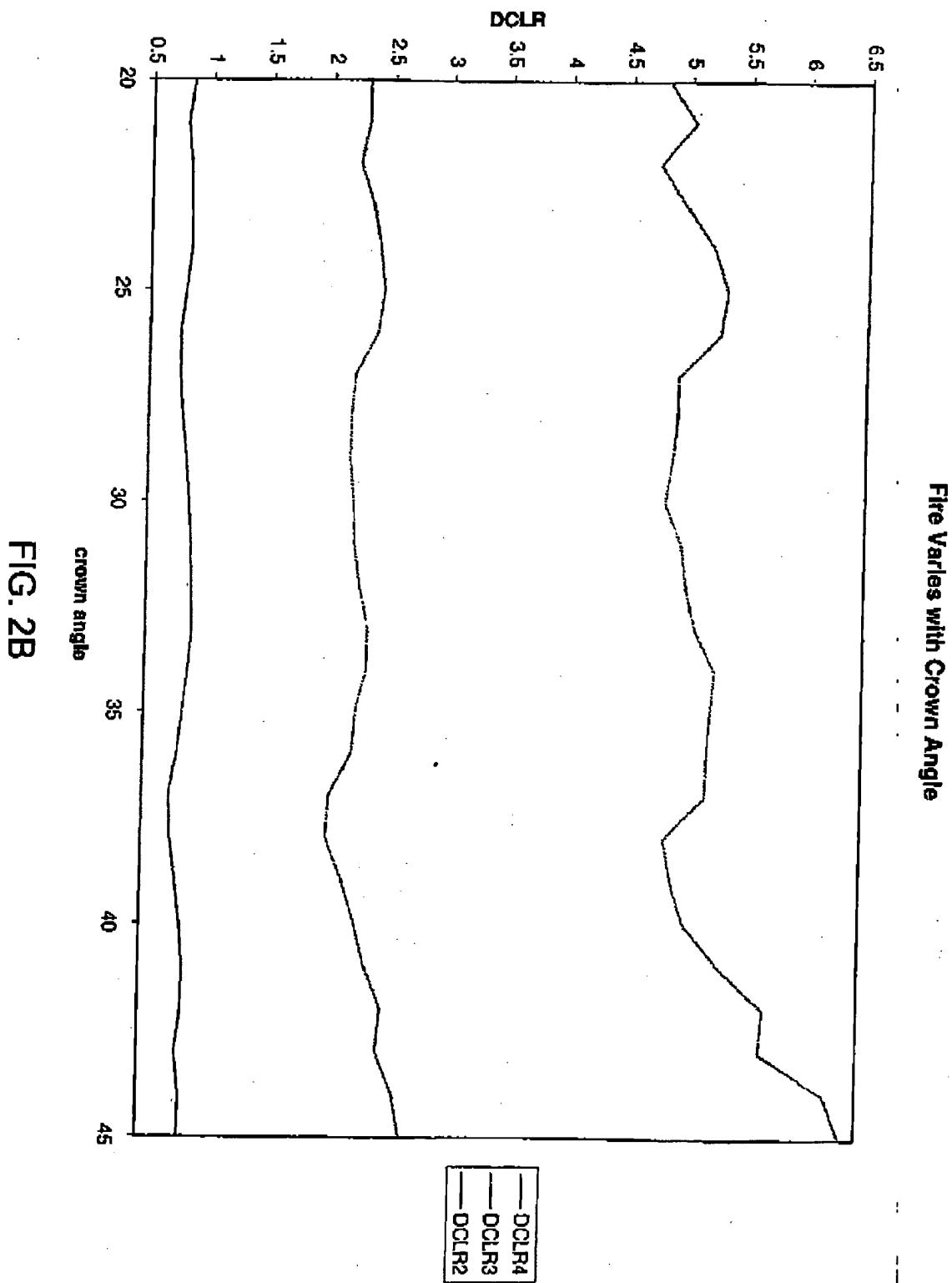
Figure A-1. We used eight parameters—varied across the range given in table 4—to define our geometric model of the round brilliant shape. (A) All linear distances in this profile view can be described as a percentage of the girdle diameter. The enlarged view of the girdle is centered on the position where we measured the girdle thickness. (B) In this view of the table, the star length is shown at 50%, so that the star facets extend halfway from the table to the girdle (when viewed from straight above). (C) In this view of the pavilion, the lower-girdle length is shown at 75%, so that the lower girdle facets extend three-fourths of the distance from the girdle to the culet (when viewed from straight below).



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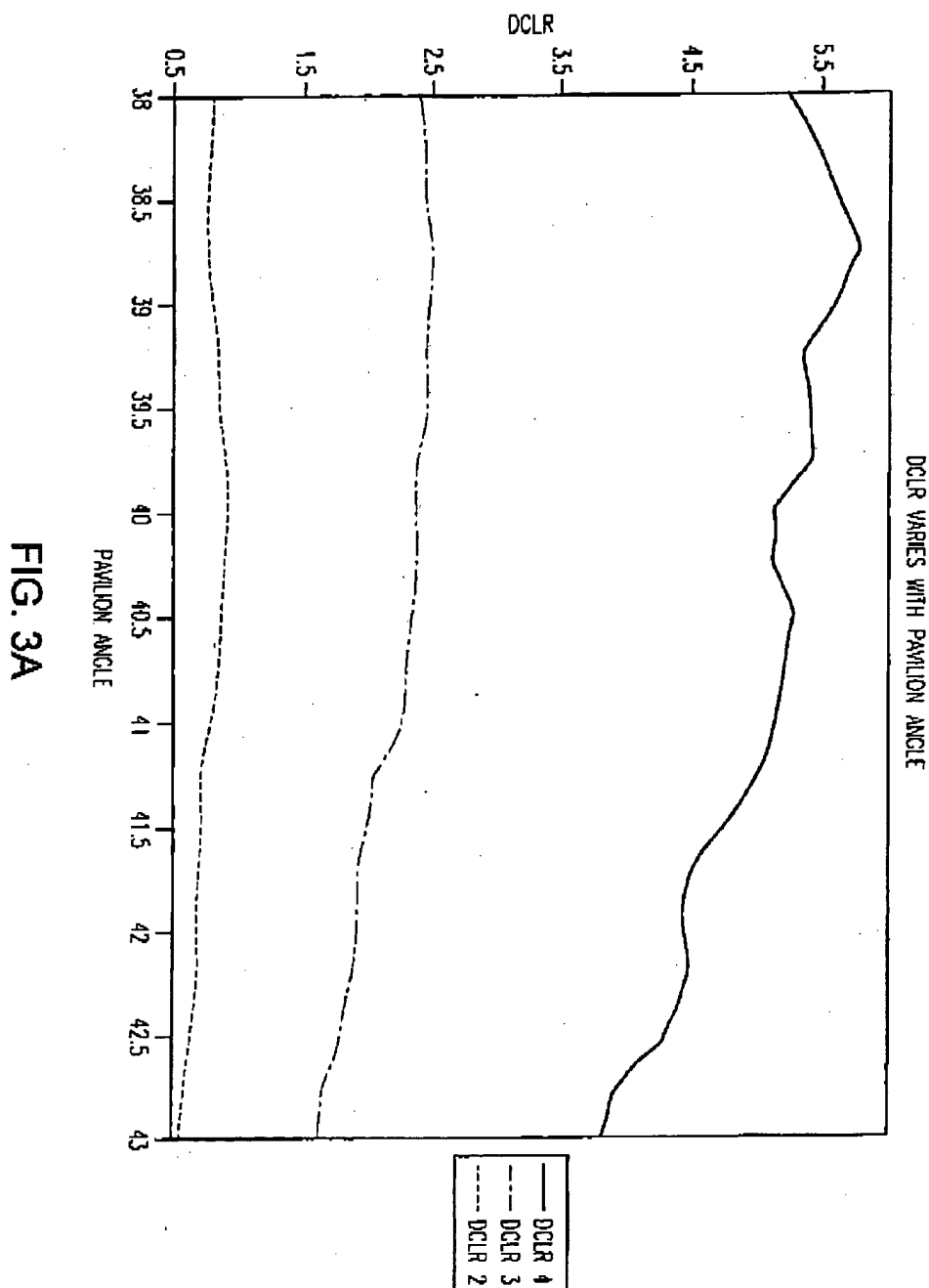


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Crown Angle	Pavilion Angle	Table Size	Girdle	Star Length	Lower Girdle Length	Culet Size	# of Girdle Facets	Crown Angle	DCLR4	DCLR3	DCLR2
20	40.5	0.56	0.005	0.5	0.75	0.03	64	20	4.808136	2.290357	0.832502
21	40.5	0.56	0.005	0.5	0.75	0.03	64	21	5.030344	2.294424	0.787851
22	40.5	0.56	0.005	0.5	0.75	0.03	64	22	4.746925	2.224495	0.816247
23	40.5	0.56	0.005	0.5	0.75	0.03	64	23	4.976609	2.33858	0.829484
24	40.5	0.56	0.005	0.5	0.75	0.03	64	24	5.208604	2.399793	0.833867
25	40.5	0.56	0.005	0.5	0.75	0.03	64	25	5.320519	2.441463	0.793886
26	40.5	0.56	0.005	0.5	0.75	0.03	64	26	5.270065	2.391322	0.753839
27	40.5	0.56	0.005	0.5	0.75	0.03	64	27	4.935745	2.216659	0.755395
28	40.5	0.56	0.005	0.5	0.75	0.03	64	28	4.930896	2.188527	0.77895
29	40.5	0.56	0.005	0.5	0.75	0.03	64	29	4.892483	2.183266	0.818271
30	40.5	0.56	0.005	0.5	0.75	0.03	64	30	4.837468	2.215199	0.847369
31	40.5	0.56	0.005	0.5	0.75	0.03	64	31	4.976839	2.227878	0.866889
32	40.5	0.56	0.005	0.5	0.75	0.03	64	32	5.019174	2.277004	0.87894
33	40.5	0.56	0.005	0.5	0.75	0.03	64	33	5.095637	2.352677	0.892496
34	40.5	0.56	0.005	0.5	0.75	0.03	64	34	5.266954	2.345421	0.863241
35	40.5	0.56	0.005	0.5	0.75	0.03	64	35	5.234717	2.266483	0.82514
36	40.5	0.56	0.005	0.5	0.75	0.03	64	36	5.211515	2.242278	0.788502
37	40.5	0.56	0.005	0.5	0.75	0.03	64	37	5.202454	2.064508	0.726241
38	40.5	0.56	0.005	0.5	0.75	0.03	64	38	4.8685	2.044293	0.742737
39	40.5	0.56	0.005	0.5	0.75	0.03	64	39	4.937516	2.184872	0.794879
40	40.5	0.56	0.005	0.5	0.75	0.03	64	40	5.051162	2.290029	0.838353
41	40.5	0.56	0.005	0.5	0.75	0.03	64	41	5.341886	2.37774	0.866865
42	40.5	0.56	0.005	0.5	0.75	0.03	64	42	5.722286	2.521091	0.862799
43	40.5	0.56	0.005	0.5	0.75	0.03	64	43	5.690082	2.486346	0.818338
44	40.5	0.56	0.005	0.5	0.75	0.03	64	44	6.240864	2.632991	0.855382
45	40.5	0.56	0.005	0.5	0.75	0.03	64	45	6.378598	2.700116	0.861092

FIG. 2C

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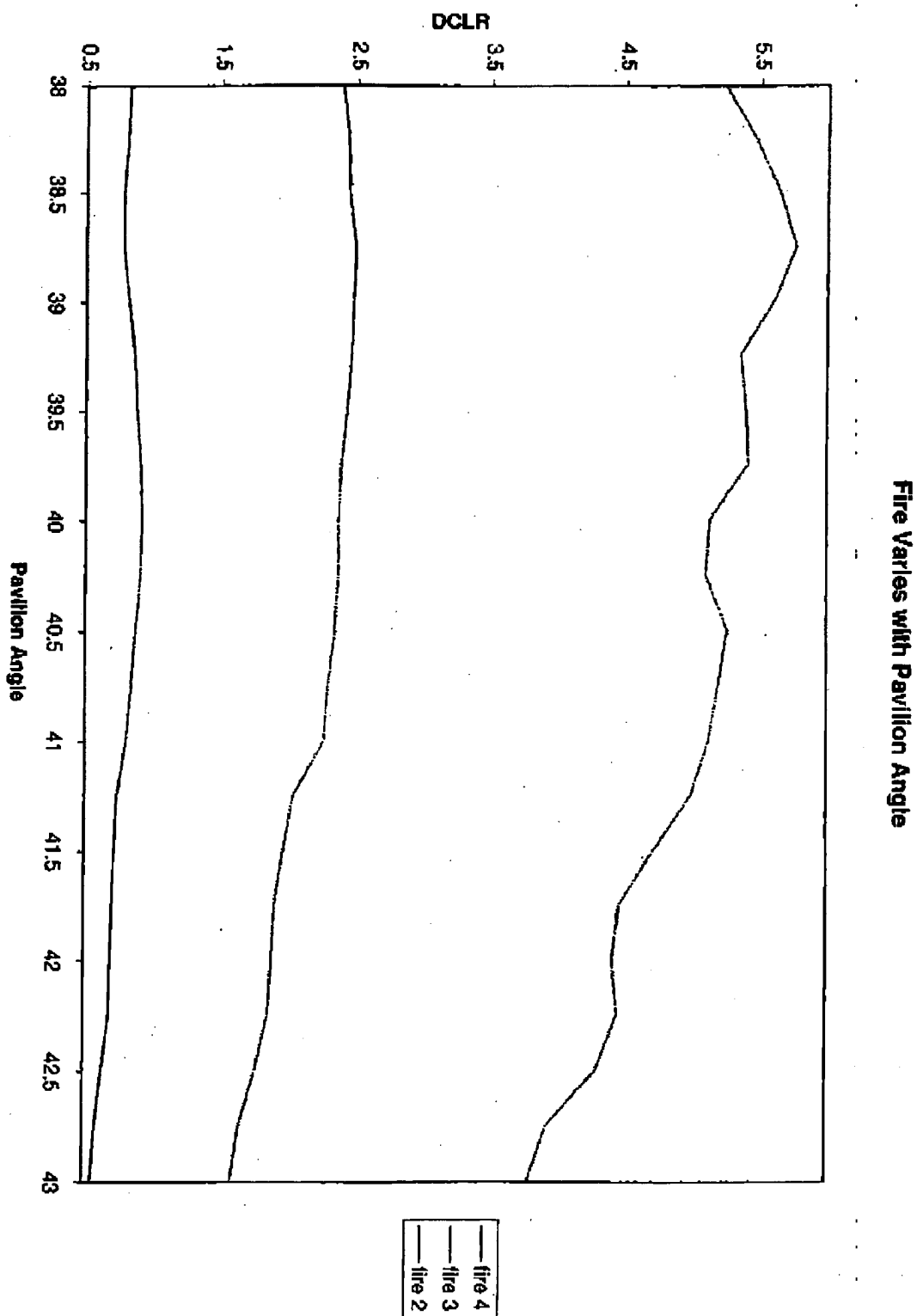


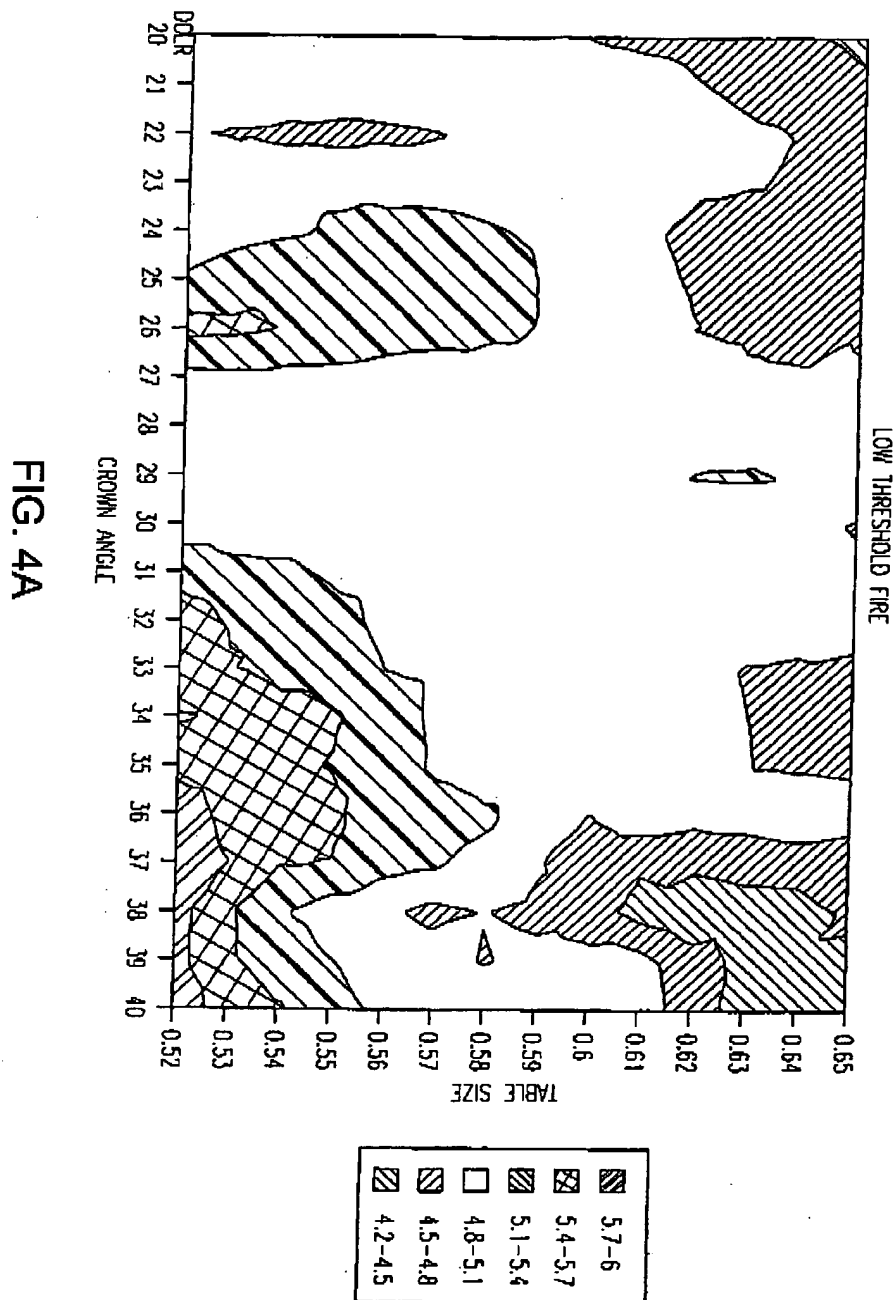
FIG. 3B

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Crown Angle	Pavilion	Table Size	Girdle	Star Length	Lower Girdle Length	Culet Size	# of Girdle Facets	Pavilion	DCLR4	DCLR3	DCLR2
34	38	0.56	0.005	0.5	0.75	0.03	64	38	5.229829	2.384859	0.810342
34	38.25	0.56	0.005	0.5	0.75	0.03	64	38.25	5.453779	2.430965	0.79447
34	38.5	0.56	0.005	0.5	0.75	0.03	64	38.5	5.638591	2.438316	0.76528
34	38.75	0.56	0.005	0.5	0.75	0.03	64	38.75	5.765021	2.485844	0.765746
34	39	0.56	0.005	0.5	0.75	0.03	64	39	5.586684	2.472668	0.810468
34	39.25	0.56	0.005	0.5	0.75	0.03	64	39.25	5.363917	2.458902	0.851028
34	39.5	0.56	0.005	0.5	0.75	0.03	64	39.5	5.401111	2.428729	0.868444
34	39.75	0.56	0.005	0.5	0.75	0.03	64	39.75	5.414612	2.386446	0.901324
34	40	0.56	0.005	0.5	0.75	0.03	64	40	5.133628	2.368464	0.908834
34	40.25	0.56	0.005	0.5	0.75	0.03	64	40.25	5.105611	2.387008	0.897934
34	40.5	0.56	0.005	0.5	0.75	0.03	64	40.5	5.266954	2.345421	0.863241
34	40.75	0.56	0.005	0.5	0.75	0.03	64	40.75	5.197605	2.297761	0.831788
34	41	0.56	0.005	0.5	0.75	0.03	64	41	5.132326	2.267499	0.794494
34	41.25	0.56	0.005	0.5	0.75	0.03	64	41.25	5.000269	2.048954	0.729645
34	41.5	0.56	0.005	0.5	0.75	0.03	64	41.5	4.726625	1.976045	0.714573
34	41.75	0.56	0.005	0.5	0.75	0.03	64	41.75	4.471355	1.912248	0.700948
34	42	0.56	0.005	0.5	0.75	0.03	64	42	4.42342	1.896277	0.688704
34	42.25	0.56	0.005	0.5	0.75	0.03	64	42.25	4.461586	1.866763	0.6823
34	42.5	0.56	0.005	0.5	0.75	0.03	64	42.5	4.302394	1.77687	0.630612
34	42.75	0.56	0.005	0.5	0.75	0.03	64	42.75	3.9399	1.660786	0.584443
34	43	0.56	0.005	0.5	0.75	0.03	64	43	3.803905	1.598593	0.554585

FIG. 3C

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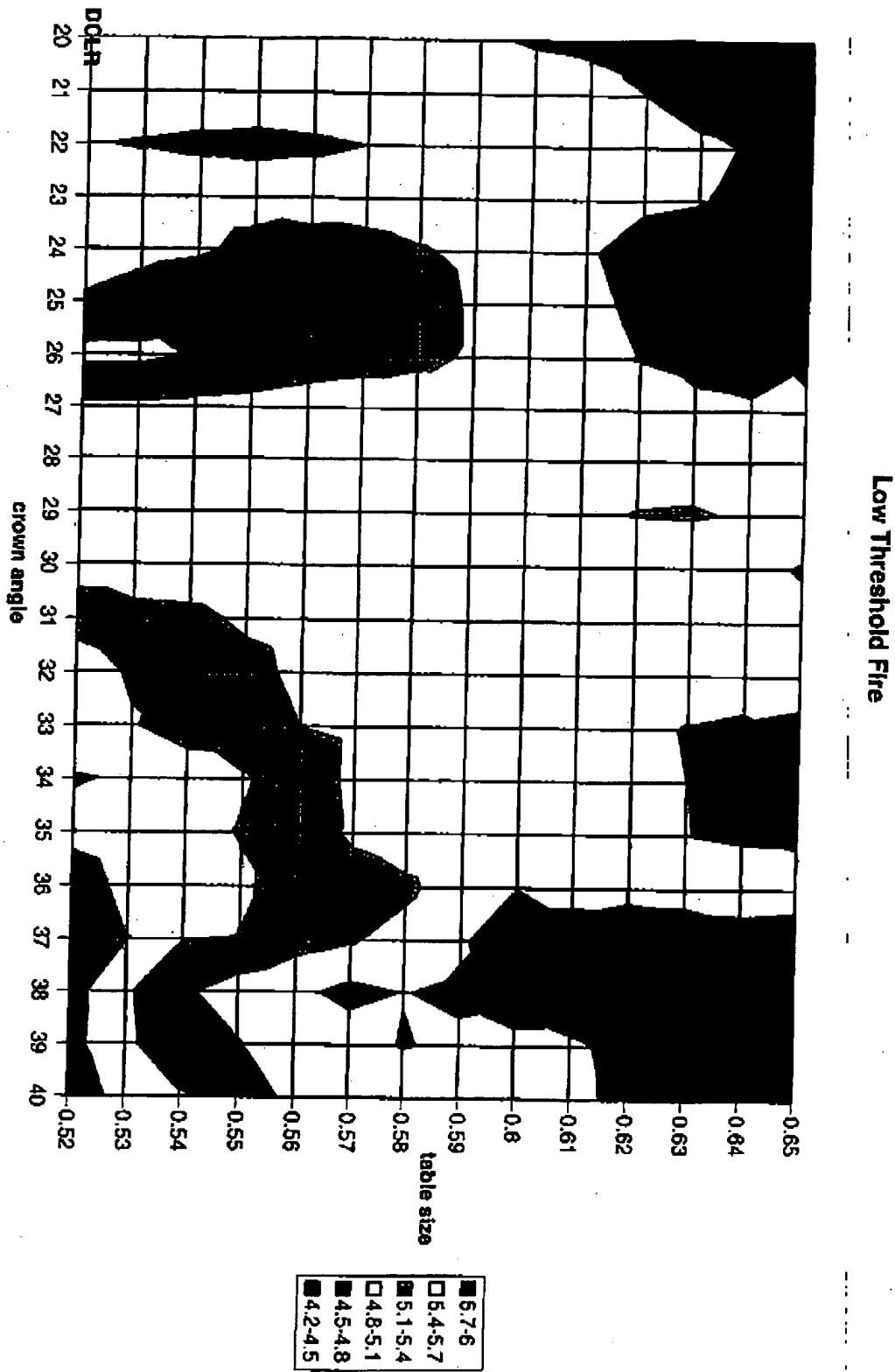


FIG. 4B

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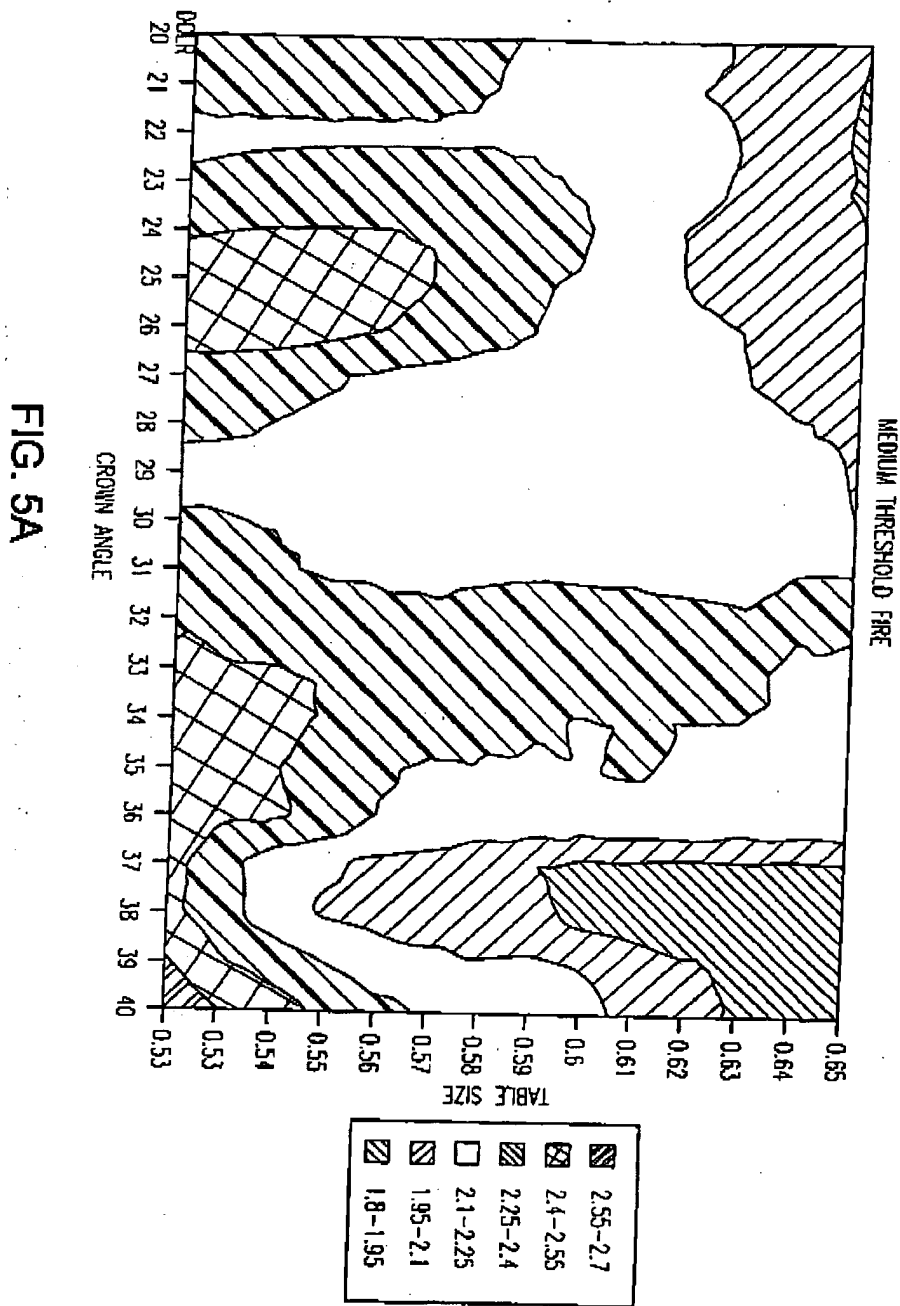
DCLR (with reference to crown angle and table size) - Low Threshold							
Table Size	20	21	22	23	24	25	26
0.52	4.820357	4.939313	4.812195	4.879748	4.932132	5.136546	5.47201
0.53	4.831093	4.950311	4.782181	4.936139	5.029274	5.203716	5.462488
0.54	4.815453	4.973588	4.73973	4.99687	5.064955	5.275224	5.381007
0.55	4.81028	5.009988	4.708252	5.015546	5.160558	5.316428	5.324799
0.56	4.808136	5.030344	4.746925	4.976609	5.208604	5.320519	5.270065
0.57	4.830171	5.026022	4.799962	4.914508	5.230896	5.301702	5.229205
0.58	4.839072	5.026973	4.853691	4.866287	5.127808	5.232636	5.171616
0.59	4.832706	4.982412	4.913689	4.828904	5.028446	5.06001	5.063859
0.6	4.776394	4.960798	4.825031	4.837148	4.928928	4.972889	4.94316
0.61	4.744811	4.902197	4.945129	4.852798	4.834193	4.881712	4.829108
0.62	4.688475	4.801576	4.95931	4.852435	4.67489	4.733005	4.754239
0.63	4.648858	4.677046	4.855552	4.817368	4.600331	4.62899	4.751064
0.64	4.537254	4.648348	4.771252	4.697791	4.578892	4.596966	4.716511
0.65	4.424109	4.57592	4.60562	4.551181	4.548646	4.609783	4.790281
5.917144	4.839072	5.030344	4.95931	5.015546	5.230896	5.320519	5.47201
4.209061	4.424109	4.57592	4.60562	4.551181	4.548646	4.596966	4.716511

DCLR (with reference to crown angle and table size) - Low Threshold							
Table Size	27	28	29	30	31	32	33
0.52	5.046131	5.022919	4.900264	4.924492	5.300924	5.547221	5.409065
0.53	5.049688	4.971674	4.856816	4.907846	5.193917	5.361343	5.42549
0.54	5.025958	4.971243	4.864711	4.860688	5.180024	5.30072	5.246033
0.55	5.001634	4.987571	4.850012	4.831711	5.041646	5.205475	5.209404
0.56	4.935745	4.930896	4.892483	4.837468	4.976839	5.019174	5.095837
0.57	4.887668	4.885941	4.911941	4.829027	4.941537	4.869972	5.04464
0.58	4.898555	4.891339	4.914794	4.848868	4.867236	4.85868	4.910879
0.59	4.898404	4.923511	4.923349	4.835056	4.829714	4.884636	4.808952
0.6	4.856815	4.979128	5.001942	4.839071	4.871782	4.877856	4.829757
0.61	4.954681	5.025748	5.084723	4.90441	4.855851	4.821782	4.872046
0.62	4.9282	5.052294	5.104288	4.985726	4.928198	4.859495	4.846723
0.63	4.846364	5.05549	5.109083	5.003274	4.924906	4.88104	4.789814
0.64	4.830715	5.021953	5.088545	4.904007	4.980077	4.944995	4.74344
0.65	4.810596	4.966058	5.034687	4.773245	4.898147	5.056408	4.666156
5.917144	5.049688	5.05549	5.109083	5.003274	5.300924	5.547221	5.42549
4.209061	4.810596	4.885941	4.850012	4.773245	4.829714	4.821782	4.666156

DCLR (with reference to crown angle and table size) - Low Threshold							
Table Size	34	35	36	37	38	39	40
0.52	5.719851	5.597977	5.884889	5.917144	5.80973	5.789427	5.873313
0.53	5.667448	5.489215	5.587521	5.701767	5.448033	5.477491	5.601686
0.54	5.599147	5.50735	5.668524	5.41251	5.147505	5.184859	5.435375
0.55	5.428893	5.377802	5.465541	5.386262	4.957486	5.116674	5.231116
0.56	5.266954	5.234717	5.211515	2.202454	4.8685	4.937516	5.051162
0.57	5.037567	5.061297	5.20193	5.123727	4.72041	4.966408	4.988474
0.58	4.934068	4.926477	5.154472	4.994656	4.809853	4.780978	5.034633
0.59	4.934716	4.874027	4.939944	4.849796	4.74409	4.865011	5.021238
0.6	4.923382	4.887877	4.808313	4.560933	4.618767	4.896856	4.966398
0.61	4.922016	4.850042	4.95823	4.532968	4.411391	4.908094	4.921952
0.62	4.819245	4.816324	4.888901	4.577857	4.231437	4.647369	4.69605
0.63	4.80074	4.803556	4.898934	4.634762	4.320362	4.423799	4.344308
0.64	4.76932	4.77176	4.960207	4.654107	4.333075	4.459725	4.245546
0.65	4.686667	4.762845	4.919437	4.63904	4.543718	4.445769	4.209061
5.917144	5.719851	5.597977	5.884889	5.917144	5.80973	5.789427	5.873313
4.209061	4.686667	4.762845	4.808313	4.532968	4.231437	4.423799	4.209061

Fig. 4C

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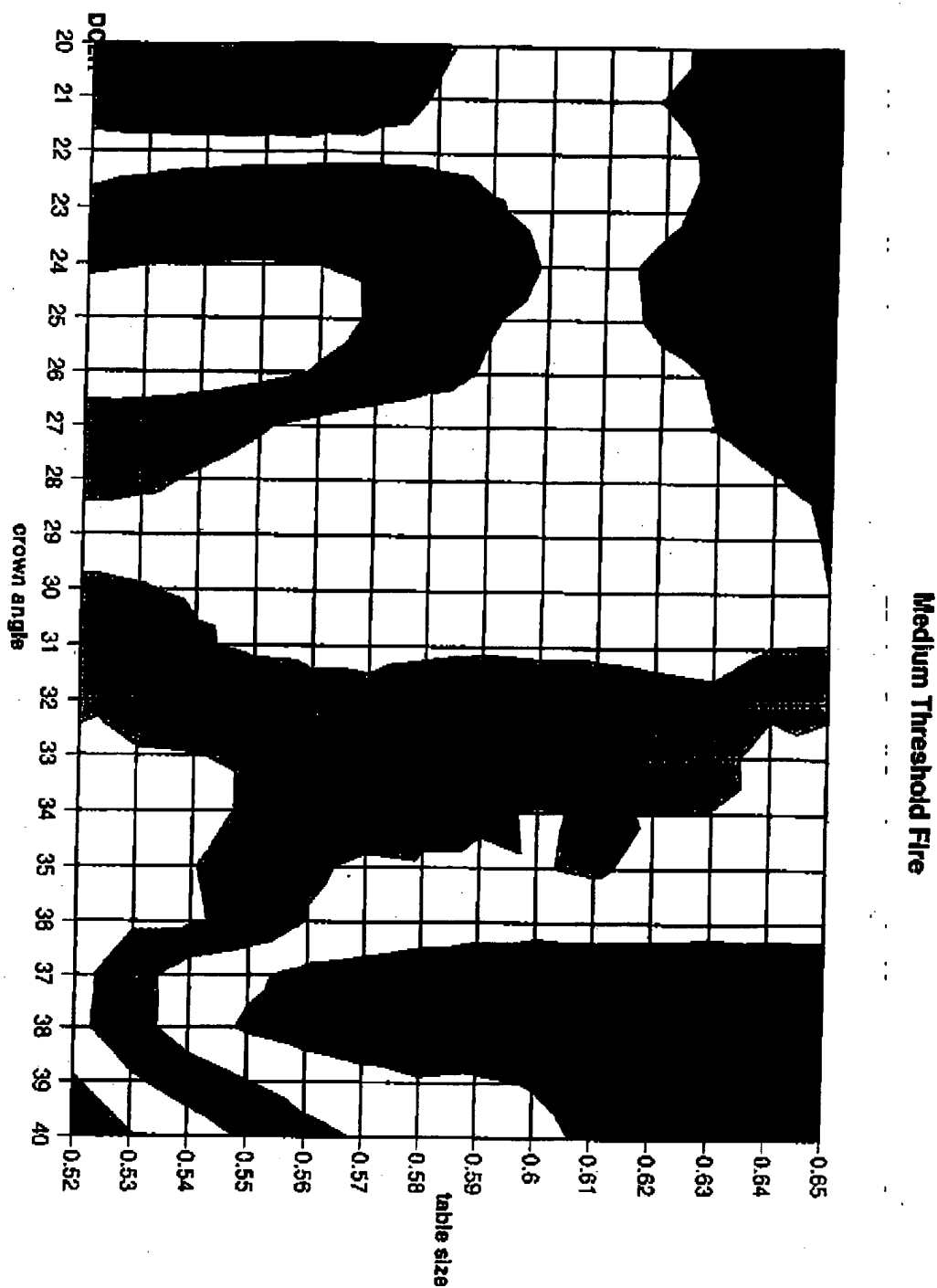


FIG. 5B

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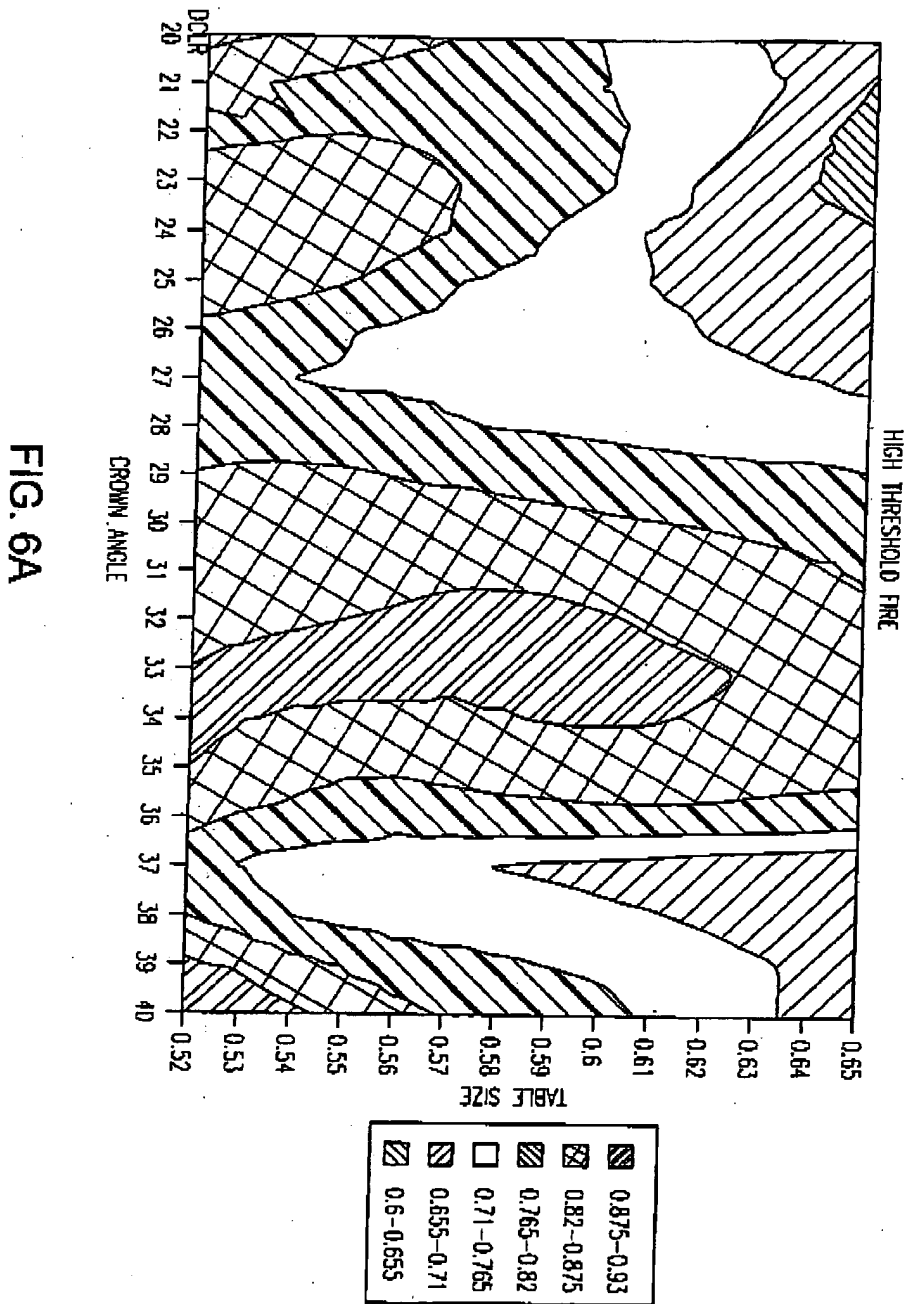
DCLR (with reference to crown angle and table size) - Medium Threshold							
Table Size	20	21	22	23	24	25	26
0.52	0.889399	0.836137	0.80803	0.835899	0.843502	0.85091	0.809153
0.53	0.877923	0.822521	0.813364	0.838058	0.847552	0.848716	0.796386
0.54	0.864041	0.809538	0.818503	0.837076	0.847447	0.83708	0.779887
0.55	0.848831	0.798123	0.819221	0.833652	0.843494	0.817627	0.76589
0.56	0.832502	0.787851	0.816247	0.829484	0.833867	0.793886	0.753839
0.57	0.815732	0.779437	0.810141	0.819743	0.815161	0.766667	0.741619
0.58	0.797956	0.774204	0.800595	0.807438	0.789799	0.748017	0.732858
0.59	0.778568	0.770116	0.786795	0.790334	0.754238	0.733273	0.727433
0.6	0.75774	0.763044	0.769118	0.764915	0.721713	0.718529	0.722913
0.61	0.736879	0.752012	0.747005	0.729899	0.70267	0.7069	0.719931
0.62	0.718835	0.73586	0.723917	0.692448	0.686848	0.696845	0.706851
0.63	0.7046	0.71398	0.694854	0.667495	0.677278	0.68524	0.695101
0.64	0.690372	0.683461	0.658024	0.65122	0.668167	0.673809	0.684811
0.65	0.673199	0.650935	0.626648	0.642425	0.658586	0.663739	0.677502
0.925808	0.889399	0.836137	0.819221	0.838058	0.847552	0.85091	0.809153
0.626648	0.673199	0.650935	0.626648	0.642425	0.658586	0.663739	0.677502

DCLR (with reference to crown angle and table size) - Medium Threshold							
Table Size	27	28	29	30	31	32	33
0.52	0.777319	0.778176	0.822632	0.843431	0.847797	0.861754	0.875922
0.53	0.771709	0.783916	0.830842	0.846235	0.850115	0.86672	0.883218
0.54	0.763208	0.790628	0.830807	0.845471	0.856028	0.87168	0.889323
0.55	0.757037	0.788203	0.825114	0.845811	0.86181	0.875469	0.891391
0.56	0.755395	0.77895	0.818271	0.847369	0.866889	0.87894	0.892496
0.57	0.752258	0.768499	0.812823	0.847118	0.870053	0.883652	0.887093
0.58	0.743976	0.764024	0.805049	0.844276	0.870545	0.884338	0.886611
0.59	0.738604	0.760982	0.796679	0.838495	0.867996	0.882911	0.888422
0.6	0.733238	0.756402	0.79058	0.830705	0.862142	0.878539	0.887673
0.61	0.728434	0.751028	0.785106	0.823538	0.853612	0.871361	0.884483
0.62	0.728386	0.747616	0.778597	0.818689	0.843502	0.86203	0.878854
0.63	0.720819	0.748032	0.775226	0.812894	0.834812	0.851162	0.871194
0.64	0.712404	0.74136	0.776011	0.808094	0.828394	0.838456	0.861161
0.65	0.703279	0.732282	0.771764	0.807634	0.818321	0.828758	0.847599
0.925808	0.777319	0.790628	0.830842	0.847369	0.870545	0.884338	0.892496
0.626648	0.703279	0.732282	0.771764	0.807634	0.818321	0.828758	0.847599

DCLR (with reference to crown angle and table size) - Medium Threshold							
Table Size	34	35	36	37	38	39	40
0.52	0.884455	0.874472	0.83522	0.794012	0.820641	0.879217	0.925808
0.53	0.876516	0.856473	0.817092	0.762049	0.789167	0.867094	0.904074
0.54	0.869909	0.839013	0.805369	0.740686	0.765218	0.839051	0.883163
0.55	0.865573	0.828396	0.796559	0.733089	0.749023	0.816077	0.859523
0.56	0.863241	0.82614	0.788502	0.726241	0.742737	0.794879	0.838353
0.57	0.863287	0.833798	0.79141	0.718304	0.739348	0.781494	0.81613
0.58	0.871497	0.841303	0.796993	0.708974	0.737052	0.774727	0.798629
0.59	0.876342	0.847675	0.79937	0.701276	0.731596	0.765057	0.791944
0.6	0.877821	0.852095	0.800218	0.695151	0.723074	0.757208	0.779571
0.61	0.875527	0.853844	0.80037	0.68866	0.715178	0.747575	0.7609
0.62	0.872329	0.851574	0.798912	0.678443	0.705287	0.734623	0.742909
0.63	0.868553	0.84878	0.795258	0.671959	0.691424	0.721272	0.72133
0.64	0.863085	0.842193	0.788609	0.665847	0.677519	0.701312	0.700518
0.65	0.856115	0.836879	0.781369	0.657474	0.662932	0.677162	0.677832
0.925808	0.884455	0.874472	0.83522	0.794012	0.820641	0.879217	0.925808
0.626648	0.856115	0.82614	0.781369	0.657474	0.662932	0.677162	0.677832

Fig. 5C

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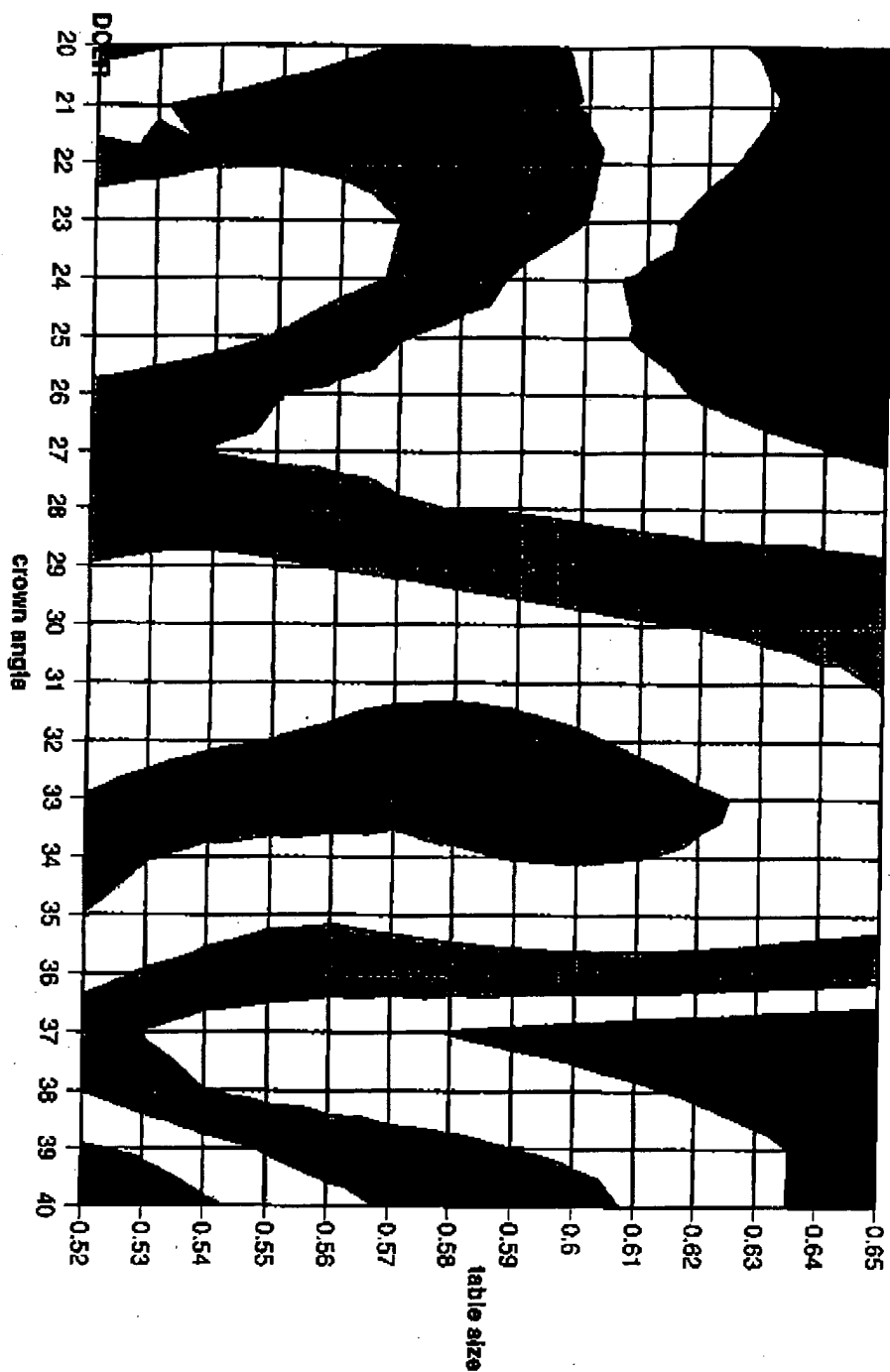


FIG. 6B

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DCLR (with reference to crown angle and table size) - High Threshold							
Table Size	20	21	22	23	24	25	26
0.52	2.30223	2.335418	2.193281	2.28173	2.37404	2.507397	2.526301
0.53	2.304005	2.329233	2.206791	2.306826	2.39802	2.514777	2.509276
0.54	2.313594	2.324573	2.213602	2.324592	2.403448	2.508406	2.478646
0.55	2.309849	2.312601	2.220023	2.336842	2.405159	2.484451	2.438782
0.56	2.290357	2.294424	2.224496	2.33858	2.399793	2.441463	2.391322
0.57	2.271913	2.271483	2.227569	2.333174	2.383975	2.386016	2.351939
0.58	2.268496	2.245258	2.224163	2.304914	2.350532	2.314879	2.301797
0.59	2.232624	2.202266	2.212221	2.260972	2.311398	2.259275	2.232498
0.6	2.208264	2.159124	2.200003	2.212965	2.297939	2.210288	2.178597
0.61	2.173788	2.12016	2.173376	2.17039	2.13402	2.141835	2.149987
0.62	2.122214	2.096023	2.123691	2.127622	2.072749	2.078855	2.126681
0.63	2.06516	2.062477	2.080321	2.051564	2.025091	2.050181	2.090416
0.64	2.008445	2.013197	2.020819	1.992772	1.989728	2.045131	2.068072
0.65	1.955188	1.937305	1.918244	1.933478	1.958347	2.032557	2.061226
2.634142	2.313594	2.335418	2.227569	2.33858	2.405159	2.514777	2.526301
1.817691	1.955188	1.937305	1.918244	1.933478	1.958347	2.032557	2.061226

DCLR (with reference to crown angle and table size) - High Threshold							
Table Size	27	28	29	30	31	32	33
0.52	2.292136	2.274878	2.213491	2.263117	2.318694	2.396675	2.404173
0.53	2.298946	2.263959	2.214281	2.264018	2.292316	2.357868	2.407772
0.54	2.285992	2.241246	2.210368	2.238267	2.258911	2.338892	2.402759
0.55	2.257812	2.216801	2.205081	2.230745	2.23362	2.307276	2.387627
0.56	2.216659	2.188527	2.183288	2.215199	2.227878	2.277004	2.352677
0.57	2.174897	2.168027	2.165533	2.209583	2.229816	2.269163	2.308357
0.58	2.145702	2.154883	2.149589	2.200822	2.236743	2.287829	2.271622
0.59	2.133239	2.144914	2.143788	2.186567	2.241172	2.295577	2.27709
0.6	2.131499	2.149113	2.144203	2.173946	2.236122	2.295137	2.289057
0.61	2.119507	2.155081	2.15407	2.155259	2.237655	2.28136	2.294391
0.62	2.105778	2.154288	2.170974	2.145525	2.232452	2.271611	2.292635
0.63	2.09862	2.127028	2.180911	2.147401	2.22679	2.264624	2.270502
0.64	2.069036	2.108709	2.147721	2.146403	2.251035	2.259674	2.227588
0.65	2.060949	2.075713	2.090885	2.101592	2.257497	2.276021	2.198133
2.634142	2.298946	2.274878	2.214281	2.263117	2.318694	2.396675	2.407772
1.817691	2.060949	2.075713	2.090885	2.101592	2.22679	2.259674	2.198133

DCLR (with reference to crown angle and table size) - High Threshold							
Table Size	34	35	36	37	38	39	40
0.52	2.497725	2.465286	2.491756	2.44923	2.439982	2.564855	2.634142
0.53	2.482186	2.416048	2.418803	2.314221	2.3111	2.42419	2.558103
0.54	2.43167	2.406068	2.41833	2.163918	2.17034	2.336082	2.479787
0.55	2.386558	2.3448	2.355507	2.12493	2.084375	2.253937	2.383294
0.56	2.345421	2.266483	2.242278	2.084508	2.044293	2.184872	2.290029
0.57	2.313417	2.228194	2.211097	2.043478	2.015128	2.145181	2.237913
0.58	2.273148	2.240134	2.194433	1.999885	2.008567	2.113333	2.21557
0.59	2.257595	2.239302	2.189499	1.957835	1.984806	2.123374	2.162441
0.6	2.245972	2.247083	2.193257	1.904927	1.918563	2.095038	2.143703
0.61	2.254045	2.256015	2.216941	1.905148	1.861386	2.041885	2.078729
0.62	2.248172	2.237498	2.212467	1.896957	1.817691	1.987117	1.998415
0.63	2.248214	2.24508	2.19211	1.899925	1.823452	1.910596	1.942233
0.64	2.230171	2.245706	2.211771	1.881567	1.819499	1.889007	1.895533
0.65	2.193809	2.230203	2.219945	1.891284	1.826914	1.88438	1.869818
2.634142	2.497725	2.465286	2.491756	2.44923	2.439982	2.564855	2.634142
1.817691	2.193809	2.228194	2.189499	1.881567	1.817691	1.88438	1.869818

Fig. 6C

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Fig. 7A

Crown Angle	Pavilion Angle	Table Size	Culet Size	Star Length	Lower Girdle Length	Girdle Thickness	# of Girdle Facets	DCLR4	Wavelength Sampling Interval (nm)	Brightness Cutoff Threshold Factor
34	40.5	0.56	0.005	0.3	0.75	0.03	64	5.611284	10	4
34	40.5	0.56	0.005	0.32	0.75	0.03	64	5.528535	10	4
34	40.5	0.56	0.005	0.34	0.75	0.03	64	5.467026	10	4
34	40.5	0.56	0.005	0.36	0.75	0.03	64	5.385497	10	4
34	40.5	0.56	0.005	0.38	0.75	0.03	64	5.397657	10	4
34	40.5	0.56	0.005	0.4	0.75	0.03	64	5.319128	10	4
34	40.5	0.56	0.005	0.42	0.75	0.03	64	5.248807	10	4
34	40.5	0.56	0.005	0.44	0.75	0.03	64	5.188517	10	4
34	40.5	0.56	0.005	0.46	0.75	0.03	64	5.181513	10	4
34	40.5	0.56	0.005	0.48	0.75	0.03	64	5.180843	10	4
34	40.5	0.56	0.005	0.5	0.75	0.03	64	5.286954	10	4
34	40.5	0.56	0.005	0.52	0.75	0.03	64	5.31081	10	4
34	40.5	0.56	0.005	0.54	0.75	0.03	64	5.408484	10	4
34	40.5	0.56	0.005	0.56	0.75	0.03	64	5.436373	10	4
34	40.5	0.56	0.005	0.58	0.75	0.03	64	5.363246	10	4
34	40.5	0.56	0.005	0.6	0.75	0.03	64	5.402035	10	4
34	40.5	0.56	0.005	0.62	0.75	0.03	64	5.429171	10	4
34	40.5	0.56	0.005	0.64	0.75	0.03	64	5.634116	10	4
34	40.5	0.56	0.005	0.66	0.75	0.03	64	5.597479	10	4
34	40.5	0.56	0.005	0.68	0.75	0.03	64	5.522144	10	4
34	40.5	0.56	0.005	0.7	0.75	0.03	64	5.515765	10	4
34	40.5	0.56	0.005	0.72	0.75	0.03	64	5.357773	10	4
34	40.5	0.56	0.005	0.74	0.75	0.03	64	5.126675	10	4
36	40.5	0.56	0.005	0.3	0.75	0.03	64	5.630851	10	4
36	40.5	0.56	0.005	0.32	0.75	0.03	64	5.69428	10	4
36	40.5	0.56	0.005	0.34	0.75	0.03	64	5.471578	10	4
36	40.5	0.56	0.005	0.36	0.75	0.03	64	5.358874	10	4
36	40.5	0.56	0.005	0.38	0.75	0.03	64	5.228163	10	4
36	40.5	0.56	0.005	0.4	0.75	0.03	64	5.153474	10	4
36	40.5	0.56	0.005	0.42	0.75	0.03	64	5.157299	10	4
36	40.5	0.56	0.005	0.44	0.75	0.03	64	5.179285	10	4
36	40.5	0.56	0.005	0.46	0.75	0.03	64	5.315996	10	4
36	40.5	0.56	0.005	0.48	0.75	0.03	64	5.207225	10	4
36	40.5	0.56	0.005	0.5	0.75	0.03	64	5.211515	10	4
36	40.5	0.56	0.005	0.52	0.75	0.03	64	5.397549	10	4
36	40.5	0.56	0.005	0.54	0.75	0.03	64	5.594171	10	4
36	40.5	0.56	0.005	0.56	0.75	0.03	64	5.689946	10	4
36	40.5	0.56	0.005	0.58	0.75	0.03	64	5.599288	10	4
36	40.5	0.56	0.005	0.6	0.75	0.03	64	5.853835	10	4
36	40.5	0.56	0.005	0.62	0.75	0.03	64	5.468048	10	4
36	40.5	0.56	0.005	0.64	0.75	0.03	64	5.337958	10	4
36	40.5	0.56	0.005	0.66	0.75	0.03	64	5.163907	10	4
36	40.5	0.56	0.005	0.68	0.75	0.03	64	5.061842	10	4
36	40.5	0.56	0.005	0.7	0.75	0.03	64	5.004612	10	4
36	40.5	0.56	0.005	0.72	0.75	0.03	64	4.838458	10	4
36	40.5	0.56	0.005	0.74	0.75	0.03	64	4.93131	10	4
25	40.5	0.56	0.005	0.3	0.75	0.03	64	5.041583	10	4
25	40.5	0.56	0.005	0.32	0.75	0.03	64	5.039889	10	4
25	40.5	0.56	0.005	0.34	0.75	0.03	64	5.014502	10	4
25	40.5	0.56	0.005	0.36	0.75	0.03	64	5.024592	10	4

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Fig. 7B

Crown Angle	Pavillion Angle	Table Size	Culet Size	Star Length	Lower Girdle Length	Girdle Thickness	# of Girdle Facets	DCLR4	Wavelength Sampling Interval (nm)	Brightness Cutoff Threshold Factor
25	40.5	0.56	0.005	0.38	0.75	0.03	64	5.032936	10	4
25	40.5	0.56	0.005	0.4	0.75	0.03	64	5.082992	10	4
25	40.5	0.56	0.005	0.42	0.75	0.03	64	5.097748	10	4
25	40.5	0.56	0.005	0.44	0.75	0.03	64	5.136455	10	4
25	40.5	0.56	0.005	0.46	0.75	0.03	64	5.203904	10	4
25	40.5	0.56	0.005	0.48	0.75	0.03	64	5.248361	10	4
25	40.5	0.56	0.005	0.5	0.75	0.03	64	5.320519	10	4
25	40.5	0.56	0.005	0.52	0.75	0.03	64	5.383032	10	4
25	40.5	0.56	0.005	0.54	0.75	0.03	64	5.406238	10	4
25	40.5	0.56	0.005	0.56	0.75	0.03	64	5.387797	10	4
25	40.5	0.56	0.005	0.58	0.75	0.03	64	5.308217	10	4
25	40.5	0.56	0.005	0.6	0.75	0.03	64	5.252345	10	4
25	40.5	0.56	0.005	0.62	0.75	0.03	64	5.148878	10	4
25	40.5	0.56	0.005	0.64	0.75	0.03	64	5.025955	10	4
25	40.5	0.56	0.005	0.66	0.75	0.03	64	4.929556	10	4
25	40.5	0.56	0.005	0.68	0.75	0.03	64	4.894349	10	4
25	40.5	0.56	0.005	0.7	0.75	0.03	64	4.916253	10	4
25	40.5	0.56	0.005	0.72	0.75	0.03	64	4.820984	10	4
25	40.5	0.56	0.005	0.74	0.75	0.03	64	4.777098	10	4

Fig. 10A

Crown Angle	Pavilion Angle	Table Size	Culet Size	Star Length	Lower Girdle Length	Girdle Thickness	# of Girdle Facets	DCLR4	Wavelength Sampling Interval (nm)	Brightness Cutoff Threshold Factor
34	38	0.52	0.005	0.5	0.75	0.03	64	5.493277	10	4
34	38.25	0.52	0.005	0.5	0.75	0.03	64	5.805845	10	4
34	38.5	0.52	0.005	0.5	0.75	0.03	64	5.942586	10	4
34	38.75	0.52	0.005	0.5	0.75	0.03	64	5.73637	10	4
34	39	0.52	0.005	0.5	0.75	0.03	64	5.420115	10	4
34	39.25	0.52	0.005	0.5	0.75	0.03	64	5.73459	10	4
34	39.5	0.52	0.005	0.5	0.75	0.03	64	5.727515	10	4
34	39.75	0.52	0.005	0.5	0.75	0.03	64	5.530222	10	4
34	40	0.52	0.005	0.5	0.75	0.03	64	5.438755	10	4
34	40.25	0.52	0.005	0.5	0.75	0.03	64	5.609786	10	4
34	40.5	0.52	0.005	0.5	0.75	0.03	64	5.719851	10	4
34	40.75	0.52	0.005	0.5	0.75	0.03	64	5.513499	10	4
34	41	0.52	0.005	0.5	0.75	0.03	64	5.717267	10	4
34	41.25	0.52	0.005	0.5	0.75	0.03	64	5.499554	10	4
34	41.5	0.52	0.005	0.5	0.75	0.03	64	5.133205	10	4
34	41.75	0.52	0.005	0.5	0.75	0.03	64	4.903186	10	4
34	42	0.52	0.005	0.5	0.75	0.03	64	4.680863	10	4
34	42.25	0.52	0.005	0.5	0.75	0.03	64	4.548648	10	4
34	42.5	0.52	0.005	0.5	0.75	0.03	64	4.545021	10	4
34	42.75	0.52	0.005	0.5	0.75	0.03	64	4.067325	10	4
34	43	0.52	0.005	0.5	0.75	0.03	64	3.921024	10	4
34	38	0.53	0.005	0.5	0.75	0.03	64	5.717495	10	4
34	38.25	0.53	0.005	0.5	0.75	0.03	64	5.810591	10	4
34	38.5	0.53	0.005	0.5	0.75	0.03	64	5.926244	10	4
34	38.75	0.53	0.005	0.5	0.75	0.03	64	5.767832	10	4
34	39	0.53	0.005	0.5	0.75	0.03	64	5.419467	10	4
34	39.25	0.53	0.005	0.5	0.75	0.03	64	5.689173	10	4
34	39.5	0.53	0.005	0.5	0.75	0.03	64	5.611356	10	4
34	39.75	0.53	0.005	0.5	0.75	0.03	64	5.348584	10	4
34	40	0.53	0.005	0.5	0.75	0.03	64	5.371505	10	4
34	40.25	0.53	0.005	0.5	0.75	0.03	64	5.571745	10	4
34	40.5	0.53	0.005	0.5	0.75	0.03	64	5.667448	10	4
34	40.75	0.53	0.005	0.5	0.75	0.03	64	5.597261	10	4
34	41	0.53	0.005	0.5	0.75	0.03	64	5.578154	10	4
34	41.25	0.53	0.005	0.5	0.75	0.03	64	5.412163	10	4
34	41.5	0.53	0.005	0.5	0.75	0.03	64	5.049304	10	4
34	41.75	0.53	0.005	0.5	0.75	0.03	64	4.730424	10	4
34	42	0.53	0.005	0.5	0.75	0.03	64	4.570047	10	4
34	42.25	0.53	0.005	0.5	0.75	0.03	64	4.523695	10	4
34	42.5	0.53	0.005	0.5	0.75	0.03	64	4.477343	10	4
34	42.75	0.53	0.005	0.5	0.75	0.03	64	4.037887	10	4
34	43	0.53	0.005	0.5	0.75	0.03	64	3.877986	10	4
34	38	0.54	0.005	0.5	0.75	0.03	64	5.622371	10	4
34	38.25	0.54	0.005	0.5	0.75	0.03	64	5.678961	10	4
34	38.5	0.54	0.005	0.5	0.75	0.03	64	5.899668	10	4
34	38.75	0.54	0.005	0.5	0.75	0.03	64	5.757424	10	4
34	39	0.54	0.005	0.5	0.75	0.03	64	5.423527	10	4
34	39.25	0.54	0.005	0.5	0.75	0.03	64	5.53263	10	4
34	39.5	0.54	0.005	0.5	0.75	0.03	64	5.568131	10	4
34	39.75	0.54	0.005	0.5	0.75	0.03	64	5.343607	10	4
34	40	0.54	0.005	0.5	0.75	0.03	64	5.178168	10	4
34	40.25	0.54	0.005	0.5	0.75	0.03	64	5.312555	10	4
34	40.5	0.54	0.005	0.5	0.75	0.03	64	5.599147	10	4
34	40.75	0.54	0.005	0.5	0.75	0.03	64	5.426709	10	4
34	41	0.54	0.005	0.5	0.75	0.03	64	5.405064	10	4
34	41.25	0.54	0.005	0.5	0.75	0.03	64	5.213119	10	4

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Fig. 10B

Crown Angle	Pavillion Angle	Table Size	Culet Size	Star Length	Lower Girdle Length	Girdle Thickness	# of Girdle Facets	DCLR4	Wavelength Sampling Interval (nm)	Brightness Cutoff Threshold Factor
34	41.5	0.54	0.005	0.5	0.75	0.03	64	5.003045	10	4
34	41.75	0.54	0.005	0.5	0.75	0.03	64	4.623531	10	4
34	42	0.54	0.005	0.5	0.75	0.03	64	4.533406	10	4
34	42.25	0.54	0.005	0.5	0.75	0.03	64	4.463817	10	4
34	42.5	0.54	0.005	0.5	0.75	0.03	64	4.334422	10	4
34	42.75	0.54	0.005	0.5	0.75	0.03	64	4.030265	10	4
34	43	0.54	0.005	0.5	0.75	0.03	64	3.937283	10	4
34	38	0.55	0.005	0.5	0.75	0.03	64	5.424596	10	4
34	38.25	0.55	0.005	0.5	0.75	0.03	64	5.596816	10	4
34	38.5	0.55	0.005	0.5	0.75	0.03	64	5.822916	10	4
34	38.75	0.55	0.005	0.5	0.75	0.03	64	5.775823	10	4
34	39	0.55	0.005	0.5	0.75	0.03	64	5.481692	10	4
34	39.25	0.55	0.005	0.5	0.75	0.03	64	5.450962	10	4
34	39.5	0.55	0.005	0.5	0.75	0.03	64	5.513478	10	4
34	39.75	0.55	0.005	0.5	0.75	0.03	64	5.417895	10	4
34	40	0.55	0.005	0.5	0.75	0.03	64	5.030628	10	4
34	40.25	0.55	0.005	0.5	0.75	0.03	64	5.182121	10	4
34	40.5	0.55	0.005	0.5	0.75	0.03	64	5.428893	10	4
34	40.75	0.55	0.005	0.5	0.75	0.03	64	5.329691	10	4
34	41	0.55	0.005	0.5	0.75	0.03	64	5.289889	10	4
34	41.25	0.55	0.005	0.5	0.75	0.03	64	5.129013	10	4
34	41.5	0.55	0.005	0.5	0.75	0.03	64	4.885418	10	4
34	41.75	0.55	0.005	0.5	0.75	0.03	64	4.483177	10	4
34	42	0.55	0.005	0.5	0.75	0.03	64	4.452805	10	4
34	42.25	0.55	0.005	0.5	0.75	0.03	64	4.434488	10	4
34	42.5	0.55	0.005	0.5	0.75	0.03	64	4.301845	10	4
34	42.75	0.55	0.005	0.5	0.75	0.03	64	3.988017	10	4
34	43	0.55	0.005	0.5	0.75	0.03	64	3.892357	10	4
34	38	0.56	0.005	0.5	0.75	0.03	64	5.229829	10	4
34	38.25	0.56	0.005	0.5	0.75	0.03	64	5.453779	10	4
34	38.5	0.56	0.005	0.5	0.75	0.03	64	5.638591	10	4
34	38.75	0.56	0.005	0.5	0.75	0.03	64	5.765021	10	4
34	39	0.56	0.005	0.5	0.75	0.03	64	5.596684	10	4
34	39.25	0.56	0.005	0.5	0.75	0.03	64	5.353917	10	4
34	39.5	0.56	0.005	0.5	0.75	0.03	64	5.401111	10	4
34	39.75	0.56	0.005	0.5	0.75	0.03	64	5.414612	10	4
34	40	0.56	0.005	0.5	0.75	0.03	64	5.133628	10	4
34	40.25	0.56	0.005	0.5	0.75	0.03	64	5.105611	10	4
34	40.5	0.56	0.005	0.5	0.75	0.03	64	5.266954	10	4
34	40.75	0.56	0.005	0.5	0.75	0.03	64	5.197605	10	4
34	41	0.56	0.005	0.5	0.75	0.03	64	5.132326	10	4
34	41.25	0.56	0.005	0.5	0.75	0.03	64	5.000269	10	4
34	41.5	0.56	0.005	0.5	0.75	0.03	64	4.728625	10	4
34	41.75	0.56	0.005	0.5	0.75	0.03	64	4.471355	10	4
34	42	0.56	0.005	0.5	0.75	0.03	64	4.42342	10	4
34	42.25	0.56	0.005	0.5	0.75	0.03	64	4.461586	10	4
34	42.5	0.56	0.005	0.5	0.75	0.03	64	4.302394	10	4
34	42.75	0.56	0.005	0.5	0.75	0.03	64	3.9399	10	4
34	43	0.56	0.005	0.5	0.75	0.03	64	3.803905	10	4
34	38	0.57	0.005	0.5	0.75	0.03	64	4.93232	10	4
34	38.25	0.57	0.005	0.5	0.75	0.03	64	5.206947	10	4
34	38.5	0.57	0.005	0.5	0.75	0.03	64	5.572394	10	4
34	38.75	0.57	0.005	0.5	0.75	0.03	64	5.652302	10	4
34	39	0.57	0.005	0.5	0.75	0.03	64	5.555333	10	4
34	39.25	0.57	0.005	0.5	0.75	0.03	64	5.316009	10	4
34	39.5	0.57	0.005	0.5	0.75	0.03	64	5.300094	10	4
34	39.75	0.57	0.005	0.5	0.75	0.03	64	5.397194	10	4

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Fig. 10C

Crown Angle	Pavillion Angle	Table Size	Culet Size	Star Length	Lower Girdle Length	Girdle Thickness	# of Girdle Facets	DCLR4	Wavelength Sampling Interval (nm)	Brightness Cutoff Threshold Factor
34	40	0.57	0.005	0.5	0.75	0.03	64	5.075396	10	4
34	40.25	0.57	0.005	0.5	0.75	0.03	64	4.959463	10	4
34	40.5	0.57	0.005	0.5	0.75	0.03	64	5.037557	10	4
34	40.75	0.57	0.005	0.5	0.75	0.03	64	5.096533	10	4
34	41	0.57	0.005	0.5	0.75	0.03	64	5.018315	10	4
34	41.25	0.57	0.005	0.5	0.75	0.03	64	4.968305	10	4
34	41.5	0.57	0.005	0.5	0.75	0.03	64	4.764407	10	4
34	41.75	0.57	0.005	0.5	0.75	0.03	64	4.485349	10	4
34	42	0.57	0.005	0.5	0.75	0.03	64	4.321794	10	4
34	42.25	0.57	0.005	0.5	0.75	0.03	64	4.463833	10	4
34	42.5	0.57	0.005	0.5	0.75	0.03	64	4.288975	10	4
34	42.75	0.57	0.005	0.5	0.75	0.03	64	3.89191	10	4
34	43	0.57	0.005	0.5	0.75	0.03	64	3.668917	10	4
34	38	0.58	0.005	0.5	0.75	0.03	64	4.89769	10	4
34	38.25	0.58	0.005	0.5	0.75	0.03	64	4.905187	10	4
34	38.5	0.58	0.005	0.5	0.75	0.03	64	5.405338	10	4
34	38.75	0.58	0.005	0.5	0.75	0.03	64	5.604507	10	4
34	39	0.58	0.005	0.5	0.75	0.03	64	5.424502	10	4
34	39.25	0.58	0.005	0.5	0.75	0.03	64	5.229388	10	4
34	39.5	0.58	0.005	0.5	0.75	0.03	64	5.147347	10	4
34	39.75	0.58	0.005	0.5	0.75	0.03	64	5.314294	10	4
34	40	0.58	0.005	0.5	0.75	0.03	64	5.018439	10	4
34	40.25	0.58	0.005	0.5	0.75	0.03	64	4.792406	10	4
34	40.5	0.58	0.005	0.5	0.75	0.03	64	4.934068	10	4
34	40.75	0.58	0.005	0.5	0.75	0.03	64	5.085083	10	4
34	41	0.58	0.005	0.5	0.75	0.03	64	5.018061	10	4
34	41.25	0.58	0.005	0.5	0.75	0.03	64	4.944051	10	4
34	41.5	0.58	0.005	0.5	0.75	0.03	64	4.762533	10	4
34	41.75	0.58	0.005	0.5	0.75	0.03	64	4.439249	10	4
34	42	0.58	0.005	0.5	0.75	0.03	64	4.266388	10	4
34	42.25	0.58	0.005	0.5	0.75	0.03	64	4.453432	10	4
34	42.5	0.58	0.005	0.5	0.75	0.03	64	4.314914	10	4
34	42.75	0.58	0.005	0.5	0.75	0.03	64	3.875559	10	4
34	43	0.58	0.005	0.5	0.75	0.03	64	3.538107	10	4
34	38	0.59	0.005	0.5	0.75	0.03	64	4.842274	10	4
34	38.25	0.59	0.005	0.5	0.75	0.03	64	4.754307	10	4
34	38.5	0.59	0.005	0.5	0.75	0.03	64	5.221967	10	4
34	38.75	0.59	0.005	0.5	0.75	0.03	64	5.33594	10	4
34	39	0.59	0.005	0.5	0.75	0.03	64	5.314924	10	4
34	39.25	0.59	0.005	0.5	0.75	0.03	64	5.222291	10	4
34	39.5	0.59	0.005	0.5	0.75	0.03	64	5.142299	10	4
34	39.75	0.59	0.005	0.5	0.75	0.03	64	5.242247	10	4
34	40	0.59	0.005	0.5	0.75	0.03	64	5.068558	10	4
34	40.25	0.59	0.005	0.5	0.75	0.03	64	4.801819	10	4
34	40.5	0.59	0.005	0.5	0.75	0.03	64	4.934716	10	4
34	40.75	0.59	0.005	0.5	0.75	0.03	64	5.041384	10	4
34	41	0.59	0.005	0.5	0.75	0.03	64	4.98427	10	4
34	41.25	0.59	0.005	0.5	0.75	0.03	64	4.963404	10	4
34	41.5	0.59	0.005	0.5	0.75	0.03	64	4.643272	10	4
34	41.75	0.59	0.005	0.5	0.75	0.03	64	4.387925	10	4
34	42	0.59	0.005	0.5	0.75	0.03	64	4.273769	10	4
34	42.25	0.59	0.005	0.5	0.75	0.03	64	4.367913	10	4
34	42.5	0.59	0.005	0.5	0.75	0.03	64	4.212573	10	4
34	42.75	0.59	0.005	0.5	0.75	0.03	64	3.891038	10	4
34	43	0.59	0.005	0.5	0.75	0.03	64	3.563555	10	4
34	38	0.6	0.005	0.5	0.75	0.03	64	4.673238	10	4
34	38.25	0.6	0.005	0.5	0.75	0.03	64	4.599346	10	4

Fig. 10D

Crown Angle	Pavillion Angle	Table Size	Culet Size	Star Length	Lower Girdle Length	Girdle Thickness	# of Girdle Facets	DCLR4	Wavelength Sampling Interval (nm)	Brightness Cutoff Threshold Factor
34	38.5	0.6	0.005	0.5	0.75	0.03	64	5.071326	10	4
34	38.75	0.6	0.005	0.5	0.75	0.03	64	5.183723	10	4
34	39	0.6	0.005	0.5	0.75	0.03	64	5.199297	10	4
34	39.25	0.6	0.005	0.5	0.75	0.03	64	5.275915	10	4
34	39.5	0.6	0.005	0.5	0.75	0.03	64	5.193584	10	4
34	39.75	0.6	0.005	0.5	0.75	0.03	64	5.247627	10	4
34	40	0.6	0.005	0.5	0.75	0.03	64	5.072312	10	4
34	40.25	0.6	0.005	0.5	0.75	0.03	64	4.781289	10	4
34	40.5	0.6	0.005	0.5	0.75	0.03	64	4.923382	10	4
34	40.75	0.6	0.005	0.5	0.75	0.03	64	4.944674	10	4
34	41	0.6	0.005	0.5	0.75	0.03	64	4.937654	10	4
34	41.25	0.6	0.005	0.5	0.75	0.03	64	4.927164	10	4
34	41.5	0.6	0.005	0.5	0.75	0.03	64	4.719866	10	4
34	41.75	0.6	0.005	0.5	0.75	0.03	64	4.510105	10	4
34	42	0.6	0.005	0.5	0.75	0.03	64	4.272734	10	4
34	42.25	0.6	0.005	0.5	0.75	0.03	64	4.187286	10	4
34	42.5	0.6	0.005	0.5	0.75	0.03	64	4.043926	10	4
34	42.75	0.6	0.005	0.5	0.75	0.03	64	3.776883	10	4
34	43	0.6	0.005	0.5	0.75	0.03	64	3.517216	10	4
34	38	0.61	0.005	0.5	0.75	0.03	64	4.572618	10	4
34	38.25	0.61	0.005	0.5	0.75	0.03	64	4.673075	10	4
34	38.5	0.61	0.005	0.5	0.75	0.03	64	4.964236	10	4
34	38.75	0.61	0.005	0.5	0.75	0.03	64	5.096562	10	4
34	39	0.61	0.005	0.5	0.75	0.03	64	5.010287	10	4
34	39.25	0.61	0.005	0.5	0.75	0.03	64	5.289823	10	4
34	39.5	0.61	0.005	0.5	0.75	0.03	64	5.250743	10	4
34	39.75	0.61	0.005	0.5	0.75	0.03	64	5.196805	10	4
34	40	0.61	0.005	0.5	0.75	0.03	64	5.017651	10	4
34	40.25	0.61	0.005	0.5	0.75	0.03	64	4.822792	10	4
34	40.5	0.61	0.005	0.5	0.75	0.03	64	4.922016	10	4
34	40.75	0.61	0.005	0.5	0.75	0.03	64	4.878578	10	4
34	41	0.61	0.005	0.5	0.75	0.03	64	4.981758	10	4
34	41.25	0.61	0.005	0.5	0.75	0.03	64	4.88136	10	4
34	41.5	0.61	0.005	0.5	0.75	0.03	64	4.704769	10	4
34	41.75	0.61	0.005	0.5	0.75	0.03	64	4.559749	10	4
34	42	0.61	0.005	0.5	0.75	0.03	64	4.312059	10	4
34	42.25	0.61	0.005	0.5	0.75	0.03	64	4.041883	10	4
34	42.5	0.61	0.005	0.5	0.75	0.03	64	3.906976	10	4
34	42.75	0.61	0.005	0.5	0.75	0.03	64	3.607952	10	4
34	43	0.61	0.005	0.5	0.75	0.03	64	3.397672	10	4
34	38	0.62	0.005	0.5	0.75	0.03	64	4.431196	10	4
34	38.25	0.62	0.005	0.5	0.75	0.03	64	4.711157	10	4
34	38.5	0.62	0.005	0.5	0.75	0.03	64	4.79142	10	4
34	38.75	0.62	0.005	0.5	0.75	0.03	64	5.107477	10	4
34	39	0.62	0.005	0.5	0.75	0.03	64	4.948804	10	4
34	39.25	0.62	0.005	0.5	0.75	0.03	64	5.242472	10	4
34	39.5	0.62	0.005	0.5	0.75	0.03	64	5.308088	10	4
34	39.75	0.62	0.005	0.5	0.75	0.03	64	5.208467	10	4
34	40	0.62	0.005	0.5	0.75	0.03	64	4.939575	10	4
34	40.25	0.62	0.005	0.5	0.75	0.03	64	4.79219	10	4
34	40.5	0.62	0.005	0.5	0.75	0.03	64	4.819245	10	4
34	40.75	0.62	0.005	0.5	0.75	0.03	64	4.834752	10	4
34	41	0.62	0.005	0.5	0.75	0.03	64	4.86977	10	4
34	41.25	0.62	0.005	0.5	0.75	0.03	64	4.779608	10	4
34	41.5	0.62	0.005	0.5	0.75	0.03	64	4.717905	10	4
34	41.75	0.62	0.005	0.5	0.75	0.03	64	4.5101	10	4
34	42	0.62	0.005	0.5	0.75	0.03	64	4.294812	10	4

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Fig. 10E

Crown Angle	Pavillion Angle	Table Size	Culet Size	Star Length	Lower Girdle Length	Girdle Thickness	# of Girdle Facets	DCLR4	Wavelength Sampling Interval (nm)	Brightness Cutoff Threshold Factor
34	42.25	0.62	0.005	0.5	0.75	0.03	64	4.041671	10	4
34	42.5	0.62	0.005	0.5	0.75	0.03	64	3.845437	10	4
34	42.75	0.62	0.005	0.5	0.75	0.03	64	3.488905	10	4
34	43	0.62	0.005	0.5	0.75	0.03	64	3.245714	10	4
34	38	0.63	0.005	0.5	0.75	0.03	64	4.444624	10	4
34	38.25	0.63	0.005	0.5	0.75	0.03	64	4.707872	10	4
34	38.5	0.63	0.005	0.5	0.75	0.03	64	4.712884	10	4
34	38.75	0.63	0.005	0.5	0.75	0.03	64	4.997234	10	4
34	39	0.63	0.005	0.5	0.75	0.03	64	4.976386	10	4
34	39.25	0.63	0.005	0.5	0.75	0.03	64	5.241674	10	4
34	39.5	0.63	0.005	0.5	0.75	0.03	64	5.337666	10	4
34	39.75	0.63	0.005	0.5	0.75	0.03	64	5.1678	10	4
34	40	0.63	0.005	0.5	0.75	0.03	64	4.868893	10	4
34	40.25	0.63	0.005	0.5	0.75	0.03	64	4.738868	10	4
34	40.5	0.63	0.005	0.5	0.75	0.03	64	4.80074	10	4
34	40.75	0.63	0.005	0.5	0.75	0.03	64	4.89628	10	4
34	41	0.63	0.005	0.5	0.75	0.03	64	4.779172	10	4
34	41.25	0.63	0.005	0.5	0.75	0.03	64	4.772348	10	4
34	41.5	0.63	0.005	0.5	0.75	0.03	64	4.665951	10	4
34	41.75	0.63	0.005	0.5	0.75	0.03	64	4.491212	10	4
34	42	0.63	0.005	0.5	0.75	0.03	64	4.2586	10	4
34	42.25	0.63	0.005	0.5	0.75	0.03	64	3.949061	10	4
34	42.5	0.63	0.005	0.5	0.75	0.03	64	3.749323	10	4
34	42.75	0.63	0.005	0.5	0.75	0.03	64	3.367393	10	4
34	43	0.63	0.005	0.5	0.75	0.03	64	3.175437	10	4
34	38	0.64	0.005	0.5	0.75	0.03	64	4.375601	10	4
34	38.25	0.64	0.005	0.5	0.75	0.03	64	4.653965	10	4
34	38.5	0.64	0.005	0.5	0.75	0.03	64	4.851339	10	4
34	38.75	0.64	0.005	0.5	0.75	0.03	64	4.910555	10	4
34	39	0.64	0.005	0.5	0.75	0.03	64	4.890862	10	4
34	39.25	0.64	0.005	0.5	0.75	0.03	64	5.230752	10	4
34	39.5	0.64	0.005	0.5	0.75	0.03	64	5.237599	10	4
34	39.75	0.64	0.005	0.5	0.75	0.03	64	5.154108	10	4
34	40	0.64	0.005	0.5	0.75	0.03	64	4.799762	10	4
34	40.25	0.64	0.005	0.5	0.75	0.03	64	4.806213	10	4
34	40.5	0.64	0.005	0.5	0.75	0.03	64	4.76932	10	4
34	40.75	0.64	0.005	0.5	0.75	0.03	64	4.762513	10	4
34	41	0.64	0.005	0.5	0.75	0.03	64	4.830222	10	4
34	41.25	0.64	0.005	0.5	0.75	0.03	64	4.644581	10	4
34	41.5	0.64	0.005	0.5	0.75	0.03	64	4.584929	10	4
34	41.75	0.64	0.005	0.5	0.75	0.03	64	4.363803	10	4
34	42	0.64	0.005	0.5	0.75	0.03	64	4.284305	10	4
34	42.25	0.64	0.005	0.5	0.75	0.03	64	3.78676	10	4
34	42.5	0.64	0.005	0.5	0.75	0.03	64	3.684077	10	4
34	42.75	0.64	0.005	0.5	0.75	0.03	64	3.192547	10	4
34	43	0.64	0.005	0.5	0.75	0.03	64	3.3293	10	4
34	38	0.65	0.005	0.5	0.75	0.03	64	4.213167	10	4
34	38.25	0.65	0.005	0.5	0.75	0.03	64	4.606747	10	4
34	38.5	0.65	0.005	0.5	0.75	0.03	64	4.887867	10	4
34	38.75	0.65	0.005	0.5	0.75	0.03	64	4.792631	10	4
34	39	0.65	0.005	0.5	0.75	0.03	64	4.895459	10	4
34	39.25	0.65	0.005	0.5	0.75	0.03	64	5.234235	10	4
34	39.5	0.65	0.005	0.5	0.75	0.03	64	5.261138	10	4
34	39.75	0.65	0.005	0.5	0.75	0.03	64	5.383435	10	4
34	40	0.65	0.005	0.5	0.75	0.03	64	4.753519	10	4
34	40.25	0.65	0.005	0.5	0.75	0.03	64	4.761221	10	4
34	40.5	0.65	0.005	0.5	0.75	0.03	64	4.686667	10	4

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Fig. 10F

Crown Angle	Pavillion Angle	Table Size	Culet Size	Star Length	Lower Girdle Length	Girdle Thickness	# of Girdle Facets	DCLR4	Wavelength Sampling Interval (nm)	Brightness Cutoff Threshold Factor
34	40.75	0.65	0.005	0.5	0.75	0.03	64	4.722319	10	4
34	41	0.65	0.005	0.5	0.75	0.03	64	4.880547	10	4
34	41.25	0.65	0.005	0.5	0.75	0.03	64	4.640121	10	4
34	41.5	0.65	0.005	0.5	0.75	0.03	64	4.50616	10	4
34	41.75	0.65	0.005	0.5	0.75	0.03	64	4.242882	10	4
34	42	0.65	0.005	0.5	0.75	0.03	64	4.070292	10	4
34	42.25	0.65	0.005	0.5	0.75	0.03	64	3.746429	10	4
34	42.5	0.65	0.005	0.5	0.75	0.03	64	3.579245	10	4
34	42.75	0.65	0.005	0.5	0.75	0.03	64	3.103817	10	4
34	43	0.65	0.005	0.5	0.75	0.03	64	3.192281	10	4

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Fig. 11A											Brightness
Crown Angle	Pavillion Angle	Table Size	Culet Size	Star Length	Lower Girdle Length	Girdle Thickness	# of Girdle Facets	DCLR3	Wavelength Sampling Interval (nm)	Cutoff Threshold Factor	
34	38	0.52	0.005	0.5	0.75	0.03	64	2.56024	10	3	
34	38.25	0.52	0.005	0.5	0.75	0.03	64	2.62372	10	3	
34	38.5	0.52	0.005	0.5	0.75	0.03	64	2.637903	10	3	
34	38.75	0.52	0.005	0.5	0.75	0.03	64	2.45408	10	3	
34	39	0.52	0.005	0.5	0.75	0.03	64	2.521807	10	3	
34	39.25	0.52	0.005	0.5	0.75	0.03	64	2.628378	10	3	
34	39.5	0.52	0.005	0.5	0.75	0.03	64	2.586273	10	3	
34	39.75	0.52	0.005	0.5	0.75	0.03	64	2.484274	10	3	
34	40	0.52	0.005	0.5	0.75	0.03	64	2.42121	10	3	
34	40.25	0.52	0.005	0.5	0.75	0.03	64	2.502591	10	3	
34	40.5	0.52	0.005	0.5	0.75	0.03	64	2.497725	10	3	
34	40.75	0.52	0.005	0.5	0.75	0.03	64	2.402551	10	3	
34	41	0.52	0.005	0.5	0.75	0.03	64	2.495177	10	3	
34	41.25	0.52	0.005	0.5	0.75	0.03	64	2.304985	10	3	
34	41.5	0.52	0.005	0.5	0.75	0.03	64	2.216605	10	3	
34	41.75	0.52	0.005	0.5	0.75	0.03	64	2.158096	10	3	
34	42	0.52	0.005	0.5	0.75	0.03	64	2.069741	10	3	
34	42.25	0.52	0.005	0.5	0.75	0.03	64	1.949909	10	3	
34	42.5	0.52	0.005	0.5	0.75	0.03	64	1.922056	10	3	
34	42.75	0.52	0.005	0.5	0.75	0.03	64	1.772726	10	3	
34	43	0.52	0.005	0.5	0.75	0.03	64	1.751846	10	3	
34	38	0.53	0.005	0.5	0.75	0.03	64	2.585623	10	3	
34	38.25	0.53	0.005	0.5	0.75	0.03	64	2.631226	10	3	
34	38.5	0.53	0.005	0.5	0.75	0.03	64	2.607705	10	3	
34	38.75	0.53	0.005	0.5	0.75	0.03	64	2.489197	10	3	
34	39	0.53	0.005	0.5	0.75	0.03	64	2.505629	10	3	
34	39.25	0.53	0.005	0.5	0.75	0.03	64	2.577766	10	3	
34	39.5	0.53	0.005	0.5	0.75	0.03	64	2.554002	10	3	
34	39.75	0.53	0.005	0.5	0.75	0.03	64	2.451161	10	3	
34	40	0.53	0.005	0.5	0.75	0.03	64	2.387227	10	3	
34	40.25	0.53	0.005	0.5	0.75	0.03	64	2.465355	10	3	
34	40.5	0.53	0.005	0.5	0.75	0.03	64	2.482186	10	3	
34	40.75	0.53	0.005	0.5	0.75	0.03	64	2.397814	10	3	
34	41	0.53	0.005	0.5	0.75	0.03	64	2.405243	10	3	
34	41.25	0.53	0.005	0.5	0.75	0.03	64	2.219772	10	3	
34	41.5	0.53	0.005	0.5	0.75	0.03	64	2.159837	10	3	
34	41.75	0.53	0.005	0.5	0.75	0.03	64	2.109897	10	3	
34	42	0.53	0.005	0.5	0.75	0.03	64	2.01383	10	3	
34	42.25	0.53	0.005	0.5	0.75	0.03	64	1.911171	10	3	
34	42.5	0.53	0.005	0.5	0.75	0.03	64	1.856773	10	3	
34	42.75	0.53	0.005	0.5	0.75	0.03	64	1.708568	10	3	
34	43	0.53	0.005	0.5	0.75	0.03	64	1.712729	10	3	
34	38	0.54	0.005	0.5	0.75	0.03	64	2.558642	10	3	
34	38.25	0.54	0.005	0.5	0.75	0.03	64	2.602757	10	3	
34	38.5	0.54	0.005	0.5	0.75	0.03	64	2.572777	10	3	
34	38.75	0.54	0.005	0.5	0.75	0.03	64	2.497193	10	3	
34	39	0.54	0.005	0.5	0.75	0.03	64	2.485891	10	3	
34	39.25	0.54	0.005	0.5	0.75	0.03	64	2.529724	10	3	
34	39.5	0.54	0.005	0.5	0.75	0.03	64	2.520005	10	3	
34	39.75	0.54	0.005	0.5	0.75	0.03	64	2.430968	10	3	
34	40	0.54	0.005	0.5	0.75	0.03	64	2.373474	10	3	
34	40.25	0.54	0.005	0.5	0.75	0.03	64	2.42504	10	3	

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Fig. 11B

Crown Angle	Pavillion Angle	Table Size	Culet Size	Star Length	Lower Girdle Length	Girdle Thickness	# of Girdle Facets	DCLR3	Wavelength Sampling Interval (nm)	Brightness Cutoff Threshold Factor
34	40.5	0.54	0.005	0.5	0.75	0.03	64	2.43167	10	3
34	40.75	0.54	0.005	0.5	0.75	0.03	64	2.362006	10	3
34	41	0.54	0.005	0.5	0.75	0.03	64	2.362826	10	3
34	41.25	0.54	0.005	0.5	0.75	0.03	64	2.151353	10	3
34	41.5	0.54	0.005	0.5	0.75	0.03	64	2.097091	10	3
34	41.75	0.54	0.005	0.5	0.75	0.03	64	2.055188	10	3
34	42	0.54	0.005	0.5	0.75	0.03	64	1.974824	10	3
34	42.25	0.54	0.005	0.5	0.75	0.03	64	1.879331	10	3
34	42.5	0.54	0.005	0.5	0.75	0.03	64	1.829478	10	3
34	42.75	0.54	0.005	0.5	0.75	0.03	64	1.668495	10	3
34	43	0.54	0.005	0.5	0.75	0.03	64	1.663354	10	3
34	38	0.55	0.005	0.5	0.75	0.03	64	2.467371	10	3
34	38.25	0.55	0.005	0.5	0.75	0.03	64	2.535877	10	3
34	38.5	0.55	0.005	0.5	0.75	0.03	64	2.506953	10	3
34	38.75	0.55	0.005	0.5	0.75	0.03	64	2.499127	10	3
34	39	0.55	0.005	0.5	0.75	0.03	64	2.479138	10	3
34	39.25	0.55	0.005	0.5	0.75	0.03	64	2.497332	10	3
34	39.5	0.55	0.005	0.5	0.75	0.03	64	2.47153	10	3
34	39.75	0.55	0.005	0.5	0.75	0.03	64	2.408166	10	3
34	40	0.55	0.005	0.5	0.75	0.03	64	2.380299	10	3
34	40.25	0.55	0.005	0.5	0.75	0.03	64	2.411317	10	3
34	40.5	0.55	0.005	0.5	0.75	0.03	64	2.386556	10	3
34	40.75	0.55	0.005	0.5	0.75	0.03	64	2.322224	10	3
34	41	0.55	0.005	0.5	0.75	0.03	64	2.307629	10	3
34	41.25	0.55	0.005	0.5	0.75	0.03	64	2.092016	10	3
34	41.5	0.55	0.005	0.5	0.75	0.03	64	2.011882	10	3
34	41.75	0.55	0.005	0.5	0.75	0.03	64	1.972341	10	3
34	42	0.55	0.005	0.5	0.75	0.03	64	1.931296	10	3
34	42.25	0.55	0.005	0.5	0.75	0.03	64	1.876851	10	3
34	42.5	0.55	0.005	0.5	0.75	0.03	64	1.795388	10	3
34	42.75	0.55	0.005	0.5	0.75	0.03	64	1.666759	10	3
34	43	0.55	0.005	0.5	0.75	0.03	64	1.628133	10	3
34	38	0.56	0.005	0.5	0.75	0.03	64	2.384859	10	3
34	38.25	0.56	0.005	0.5	0.75	0.03	64	2.430965	10	3
34	38.5	0.56	0.005	0.5	0.75	0.03	64	2.438316	10	3
34	38.75	0.56	0.005	0.5	0.75	0.03	64	2.485844	10	3
34	39	0.56	0.005	0.5	0.75	0.03	64	2.472669	10	3
34	39.25	0.56	0.005	0.5	0.75	0.03	64	2.458902	10	3
34	39.5	0.56	0.005	0.5	0.75	0.03	64	2.428729	10	3
34	39.75	0.56	0.005	0.5	0.75	0.03	64	2.386446	10	3
34	40	0.56	0.005	0.5	0.75	0.03	64	2.368464	10	3
34	40.25	0.56	0.005	0.5	0.75	0.03	64	2.367008	10	3
34	40.5	0.56	0.005	0.5	0.75	0.03	64	2.345421	10	3
34	40.75	0.56	0.005	0.5	0.75	0.03	64	2.297761	10	3
34	41	0.56	0.005	0.5	0.75	0.03	64	2.267499	10	3
34	41.25	0.56	0.005	0.5	0.75	0.03	64	2.048954	10	3
34	41.5	0.56	0.005	0.5	0.75	0.03	64	1.976045	10	3
34	41.75	0.56	0.005	0.5	0.75	0.03	64	1.912248	10	3
34	42	0.56	0.005	0.5	0.75	0.03	64	1.896277	10	3
34	42.25	0.56	0.005	0.5	0.75	0.03	64	1.866763	10	3
34	42.5	0.56	0.005	0.5	0.75	0.03	64	1.77687	10	3
34	42.75	0.56	0.005	0.5	0.75	0.03	64	1.660786	10	3

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Fig. 11 C										
Crown Angle	Pavillion Angle	Table Size	Culet Size	Star Length	Lower Girdle Length	Girdle Thickness	# of Facets	DCLR3	Wavelength Sampling Interval (nm)	Brightness Cutoff Threshold Factor
34	43	0.58	0.005	0.5	0.75	0.03	64	1.598583	10	3
34	38	0.57	0.005	0.5	0.75	0.03	64	2.29322	10	3
34	38.25	0.57	0.005	0.5	0.75	0.03	64	2.318528	10	3
34	38.5	0.57	0.005	0.5	0.75	0.03	64	2.371713	10	3
34	38.75	0.57	0.005	0.5	0.75	0.03	64	2.440228	10	3
34	39	0.57	0.005	0.5	0.75	0.03	64	2.439588	10	3
34	39.25	0.57	0.005	0.5	0.75	0.03	64	2.424983	10	3
34	39.5	0.57	0.005	0.5	0.75	0.03	64	2.407552	10	3
34	39.75	0.57	0.005	0.5	0.75	0.03	64	2.343643	10	3
34	40	0.57	0.005	0.5	0.75	0.03	64	2.331335	10	3
34	40.25	0.57	0.005	0.5	0.75	0.03	64	2.321218	10	3
34	40.5	0.57	0.005	0.5	0.75	0.03	64	2.313417	10	3
34	40.75	0.57	0.005	0.5	0.75	0.03	64	2.261803	10	3
34	41	0.57	0.005	0.5	0.75	0.03	64	2.240168	10	3
34	41.25	0.57	0.005	0.5	0.75	0.03	64	2.048184	10	3
34	41.5	0.57	0.005	0.5	0.75	0.03	64	1.976444	10	3
34	41.75	0.57	0.005	0.5	0.75	0.03	64	1.891455	10	3
34	42	0.57	0.005	0.5	0.75	0.03	64	1.870176	10	3
34	42.25	0.57	0.005	0.5	0.75	0.03	64	1.849415	10	3
34	42.5	0.57	0.005	0.5	0.75	0.03	64	1.758388	10	3
34	42.75	0.57	0.005	0.5	0.75	0.03	64	1.625158	10	3
34	43	0.57	0.005	0.5	0.75	0.03	64	1.582979	10	3
34	38	0.58	0.005	0.5	0.75	0.03	64	2.2449	10	3
34	38.25	0.58	0.005	0.5	0.75	0.03	64	2.200018	10	3
34	38.5	0.58	0.005	0.5	0.75	0.03	64	2.314943	10	3
34	38.75	0.58	0.005	0.5	0.75	0.03	64	2.380773	10	3
34	39	0.59	0.005	0.5	0.75	0.03	64	2.393095	10	3
34	39.25	0.58	0.005	0.5	0.75	0.03	64	2.40404	10	3
34	39.5	0.58	0.005	0.5	0.75	0.03	64	2.383528	10	3
34	39.75	0.58	0.005	0.5	0.75	0.03	64	2.325183	10	3
34	40	0.58	0.005	0.5	0.75	0.03	64	2.302531	10	3
34	40.25	0.58	0.005	0.5	0.75	0.03	64	2.2962	10	3
34	40.5	0.58	0.005	0.5	0.75	0.03	64	2.273146	10	3
34	40.75	0.58	0.005	0.5	0.75	0.03	64	2.259006	10	3
34	41	0.58	0.005	0.5	0.75	0.03	64	2.25282	10	3
34	41.25	0.58	0.005	0.5	0.75	0.03	64	2.052269	10	3
34	41.5	0.58	0.005	0.5	0.75	0.03	64	1.987241	10	3
34	41.75	0.58	0.005	0.5	0.75	0.03	64	1.888162	10	3
34	42	0.58	0.005	0.5	0.75	0.03	64	1.843398	10	3
34	42.25	0.58	0.005	0.5	0.75	0.03	64	1.83487	10	3
34	42.5	0.58	0.005	0.5	0.75	0.03	64	1.738423	10	3
34	42.75	0.58	0.005	0.5	0.75	0.03	64	1.599105	10	3
34	43	0.58	0.005	0.5	0.75	0.03	64	1.535505	10	3
34	38	0.59	0.005	0.5	0.75	0.03	64	2.184323	10	3
34	38.25	0.59	0.005	0.5	0.75	0.03	64	2.109861	10	3
34	38.5	0.59	0.005	0.5	0.75	0.03	64	2.225028	10	3
34	38.75	0.59	0.005	0.5	0.75	0.03	64	2.341852	10	3
34	39	0.59	0.005	0.5	0.75	0.03	64	2.377811	10	3
34	39.25	0.59	0.005	0.5	0.75	0.03	64	2.415963	10	3
34	39.5	0.59	0.005	0.5	0.75	0.03	64	2.350964	10	3
34	39.75	0.59	0.005	0.5	0.75	0.03	64	2.311078	10	3
34	40	0.59	0.005	0.5	0.75	0.03	64	2.303502	10	3

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Fig. 11D

Crown Angle	Pavillion Angle	Table Size	Culet Size	Star Length	Lower Girdle Length	Girdle Thickness	# of Facets	DCLR3	Wavelength Sampling Interval (nm)	Brightness Cutoff Threshold Factor
34	40.25	0.59	0.005	0.5	0.75	0.03	64	2.305293	10	3
34	40.5	0.59	0.005	0.5	0.75	0.03	64	2.257595	10	3
34	40.75	0.59	0.005	0.5	0.75	0.03	64	2.244672	10	3
34	41	0.59	0.005	0.5	0.75	0.03	64	2.248976	10	3
34	41.25	0.59	0.005	0.5	0.75	0.03	64	2.044514	10	3
34	41.5	0.59	0.005	0.5	0.75	0.03	64	1.96695	10	3
34	41.75	0.59	0.005	0.5	0.75	0.03	64	1.897437	10	3
34	42	0.59	0.005	0.5	0.75	0.03	64	1.827465	10	3
34	42.25	0.59	0.005	0.5	0.75	0.03	64	1.807431	10	3
34	42.5	0.59	0.005	0.5	0.75	0.03	64	1.701863	10	3
34	42.75	0.59	0.005	0.5	0.75	0.03	64	1.565639	10	3
34	43	0.59	0.005	0.5	0.75	0.03	64	1.505227	10	3
34	38	0.6	0.005	0.5	0.75	0.03	64	2.116379	10	3
34	38.25	0.6	0.005	0.5	0.75	0.03	64	2.034801	10	3
34	38.5	0.6	0.005	0.5	0.75	0.03	64	2.163161	10	3
34	38.75	0.6	0.005	0.5	0.75	0.03	64	2.317819	10	3
34	39	0.6	0.005	0.5	0.75	0.03	64	2.379017	10	3
34	39.25	0.6	0.005	0.5	0.75	0.03	64	2.441714	10	3
34	39.5	0.6	0.005	0.5	0.75	0.03	64	2.360155	10	3
34	39.75	0.6	0.005	0.5	0.75	0.03	64	2.303409	10	3
34	40	0.6	0.005	0.5	0.75	0.03	64	2.302245	10	3
34	40.25	0.6	0.005	0.5	0.75	0.03	64	2.32489	10	3
34	40.5	0.6	0.005	0.5	0.75	0.03	64	2.245972	10	3
34	40.75	0.6	0.005	0.5	0.75	0.03	64	2.227878	10	3
34	41	0.6	0.005	0.5	0.75	0.03	64	2.252928	10	3
34	41.25	0.6	0.005	0.5	0.75	0.03	64	2.052099	10	3
34	41.5	0.6	0.005	0.5	0.75	0.03	64	1.97704	10	3
34	41.75	0.6	0.005	0.5	0.75	0.03	64	1.896367	10	3
34	42	0.6	0.005	0.5	0.75	0.03	64	1.821832	10	3
34	42.25	0.6	0.005	0.5	0.75	0.03	64	1.788714	10	3
34	42.5	0.6	0.005	0.5	0.75	0.03	64	1.685721	10	3
34	42.75	0.6	0.005	0.5	0.75	0.03	64	1.530645	10	3
34	43	0.6	0.005	0.5	0.75	0.03	64	1.464473	10	3
34	38	0.61	0.005	0.5	0.75	0.03	64	2.080339	10	3
34	38.25	0.61	0.005	0.5	0.75	0.03	64	2.029245	10	3
34	38.5	0.61	0.005	0.5	0.75	0.03	64	2.130434	10	3
34	38.75	0.61	0.005	0.5	0.75	0.03	64	2.287073	10	3
34	39	0.61	0.005	0.5	0.75	0.03	64	2.380598	10	3
34	39.25	0.61	0.005	0.5	0.75	0.03	64	2.475646	10	3
34	39.5	0.61	0.005	0.5	0.75	0.03	64	2.363741	10	3
34	39.75	0.61	0.005	0.5	0.75	0.03	64	2.296805	10	3
34	40	0.61	0.005	0.5	0.75	0.03	64	2.300787	10	3
34	40.25	0.61	0.005	0.5	0.75	0.03	64	2.317179	10	3
34	40.5	0.61	0.005	0.5	0.75	0.03	64	2.254045	10	3
34	40.75	0.61	0.005	0.5	0.75	0.03	64	2.213688	10	3
34	41	0.61	0.005	0.5	0.75	0.03	64	2.243129	10	3
34	41.25	0.61	0.005	0.5	0.75	0.03	64	2.031185	10	3
34	41.5	0.61	0.005	0.5	0.75	0.03	64	1.965116	10	3
34	41.75	0.61	0.005	0.5	0.75	0.03	64	1.879425	10	3
34	42	0.61	0.005	0.5	0.75	0.03	64	1.809611	10	3
34	42.25	0.61	0.005	0.5	0.75	0.03	64	1.768348	10	3
34	42.5	0.61	0.005	0.5	0.75	0.03	64	1.679952	10	3

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Fig. 11E

Crown Angle	Pavillion Angle	Table Size	Culet Size	Star Length	Lower Girdle Length	Girdle Thickness	# of Girdle Facets	Wavelength Sampling Interval (nm)	Brightness Cutoff Threshold Factor
34	42.75	0.61	0.005	0.5	0.75	0.03	64	1.484666	3
34	43	0.61	0.005	0.5	0.75	0.03	64	1.43055	3
34	38	0.62	0.005	0.5	0.75	0.03	64	2.030581	3
34	38.25	0.62	0.005	0.5	0.75	0.03	64	2.034123	3
34	38.5	0.62	0.005	0.5	0.75	0.03	64	2.090985	3
34	38.75	0.62	0.005	0.5	0.75	0.03	64	2.255456	3
34	39	0.62	0.005	0.5	0.75	0.03	64	2.349043	3
34	39.25	0.62	0.005	0.5	0.75	0.03	64	2.47217	3
34	39.5	0.62	0.005	0.5	0.75	0.03	64	2.355233	3
34	39.75	0.62	0.005	0.5	0.75	0.03	64	2.295602	3
34	40	0.62	0.005	0.5	0.75	0.03	64	2.304955	3
34	40.25	0.62	0.005	0.5	0.75	0.03	64	2.30649	3
34	40.5	0.62	0.005	0.5	0.75	0.03	64	2.248172	3
34	40.75	0.62	0.005	0.5	0.75	0.03	64	2.199159	3
34	41	0.62	0.005	0.5	0.75	0.03	64	2.22692	3
34	41.25	0.62	0.005	0.5	0.75	0.03	64	2.005718	3
34	41.5	0.62	0.005	0.5	0.75	0.03	64	1.951076	3
34	41.75	0.62	0.005	0.5	0.75	0.03	64	1.868956	3
34	42	0.62	0.005	0.5	0.75	0.03	64	1.772161	3
34	42.25	0.62	0.005	0.5	0.75	0.03	64	1.734037	3
34	42.5	0.62	0.005	0.5	0.75	0.03	64	1.655716	3
34	42.75	0.62	0.005	0.5	0.75	0.03	64	1.475449	3
34	43	0.62	0.005	0.5	0.75	0.03	64	1.401287	3
34	38	0.63	0.005	0.5	0.75	0.03	64	1.994225	3
34	38.25	0.63	0.005	0.5	0.75	0.03	64	2.015877	3
34	38.5	0.63	0.005	0.5	0.75	0.03	64	2.045052	3
34	38.75	0.63	0.005	0.5	0.75	0.03	64	2.221788	3
34	39	0.63	0.005	0.5	0.75	0.03	64	2.346742	3
34	39.25	0.63	0.005	0.5	0.75	0.03	64	2.490031	3
34	39.5	0.63	0.005	0.5	0.75	0.03	64	2.376295	3
34	39.75	0.63	0.005	0.5	0.75	0.03	64	2.28009	3
34	40	0.63	0.005	0.5	0.75	0.03	64	2.297561	3
34	40.25	0.63	0.005	0.5	0.75	0.03	64	2.276601	3
34	40.5	0.63	0.005	0.5	0.75	0.03	64	2.248214	3
34	40.75	0.63	0.005	0.5	0.75	0.03	64	2.217128	3
34	41	0.63	0.005	0.5	0.75	0.03	64	2.208079	3
34	41.25	0.63	0.005	0.5	0.75	0.03	64	1.970803	3
34	41.5	0.63	0.005	0.5	0.75	0.03	64	1.92719	3
34	41.75	0.63	0.005	0.5	0.75	0.03	64	1.846185	3
34	42	0.63	0.005	0.5	0.75	0.03	64	1.745782	3
34	42.25	0.63	0.005	0.5	0.75	0.03	64	1.680891	3
34	42.5	0.63	0.005	0.5	0.75	0.03	64	1.627788	3
34	42.75	0.63	0.005	0.5	0.75	0.03	64	1.449062	3
34	43	0.63	0.005	0.5	0.75	0.03	64	1.378223	3
34	38	0.64	0.005	0.5	0.75	0.03	64	1.937163	3
34	38.25	0.64	0.005	0.5	0.75	0.03	64	1.986278	3
34	38.5	0.64	0.005	0.5	0.75	0.03	64	2.104674	3
34	38.75	0.64	0.005	0.5	0.75	0.03	64	2.177021	3
34	39	0.64	0.005	0.5	0.75	0.03	64	2.339914	3
34	39.25	0.64	0.005	0.5	0.75	0.03	64	2.485933	3
34	39.5	0.64	0.005	0.5	0.75	0.03	64	2.371974	3
34	39.75	0.64	0.005	0.5	0.75	0.03	64	2.280436	3

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Fig. 11F

Crown Angle	Pavillion Angle	Table Size	Culet Size	Star Length	Lower Girdle Length	Girdle Thickness	# of Girdle Facets	DCLR3	Wavelength Sampling Interval (nm)	Brightness Cutoff Threshold Factor
34	40	0.64	0.005	0.5	0.75	0.03	64	2.288242	10	3
34	40.25	0.64	0.005	0.5	0.75	0.03	64	2.259336	10	3
34	40.5	0.64	0.005	0.5	0.75	0.03	64	2.230171	10	3
34	40.75	0.64	0.005	0.5	0.75	0.03	64	2.196695	10	3
34	41	0.64	0.005	0.5	0.75	0.03	64	2.200361	10	3
34	41.25	0.64	0.005	0.5	0.75	0.03	64	1.928936	10	3
34	41.5	0.64	0.005	0.5	0.75	0.03	64	1.887913	10	3
34	41.75	0.64	0.005	0.5	0.75	0.03	64	1.829684	10	3
34	42	0.64	0.005	0.5	0.75	0.03	64	1.694517	10	3
34	42.25	0.64	0.005	0.5	0.75	0.03	64	1.641441	10	3
34	42.5	0.64	0.005	0.5	0.75	0.03	64	1.593743	10	3
34	42.75	0.64	0.005	0.5	0.75	0.03	64	1.399281	10	3
34	43	0.64	0.005	0.5	0.75	0.03	64	1.381328	10	3
34	38	0.65	0.005	0.5	0.75	0.03	64	1.875263	10	3
34	38.25	0.65	0.005	0.5	0.75	0.03	64	1.950259	10	3
34	38.5	0.65	0.005	0.5	0.75	0.03	64	2.111066	10	3
34	38.75	0.65	0.005	0.5	0.75	0.03	64	2.122745	10	3
34	39	0.65	0.005	0.5	0.75	0.03	64	2.318192	10	3
34	39.25	0.65	0.005	0.5	0.75	0.03	64	2.471633	10	3
34	39.5	0.65	0.005	0.5	0.75	0.03	64	2.353229	10	3
34	39.75	0.65	0.005	0.5	0.75	0.03	64	2.272917	10	3
34	40	0.65	0.005	0.5	0.75	0.03	64	2.274338	10	3
34	40.25	0.65	0.005	0.5	0.75	0.03	64	2.238931	10	3
34	40.5	0.65	0.005	0.5	0.75	0.03	64	2.193809	10	3
34	40.75	0.65	0.005	0.5	0.75	0.03	64	2.105184	10	3
34	41	0.65	0.005	0.5	0.75	0.03	64	2.202781	10	3
34	41.25	0.65	0.005	0.5	0.75	0.03	64	1.905847	10	3
34	41.5	0.65	0.005	0.5	0.75	0.03	64	1.897126	10	3
34	41.75	0.65	0.005	0.5	0.75	0.03	64	1.776166	10	3
34	42	0.65	0.005	0.5	0.75	0.03	64	1.634451	10	3
34	42.25	0.65	0.005	0.5	0.75	0.03	64	1.59568	10	3
34	42.5	0.65	0.005	0.5	0.75	0.03	64	1.544586	10	3
34	42.75	0.65	0.005	0.5	0.75	0.03	64	1.350085	10	3
34	43	0.65	0.005	0.5	0.75	0.03	64	1.356024	10	3

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Fig. 12A											Brightness
Crown	Pavillion	Table	Culet	Star	Lower	Girdle	# of	Wavelength	Cutoff		Threshold
Angle	Angle	Size	Size	Length	Length	Thickness	Facets	DCLR2	Sampling	Interval (nm)	Factor
34	0.52	0.005	0.005	0.5	0.75	0.03	64	0.830853	10		2
34	0.52	0.005	0.005	0.5	0.75	0.03	64	0.815603	10		2
34	38.5	0.52	0.005	0.5	0.75	0.03	64	0.775263	10		2
34	38.75	0.52	0.005	0.5	0.75	0.03	64	0.782148	10		2
34	39	0.52	0.005	0.5	0.75	0.03	64	0.842428	10		2
34	39.25	0.52	0.005	0.5	0.75	0.03	64	0.888842	10		2
34	39.5	0.52	0.005	0.5	0.75	0.03	64	0.887367	10		2
34	39.75	0.52	0.005	0.5	0.75	0.03	64	0.897572	10		2
34	40	0.52	0.005	0.5	0.75	0.03	64	0.912094	10		2
34	40.25	0.52	0.005	0.5	0.75	0.03	64	0.903303	10		2
34	40.5	0.52	0.005	0.5	0.75	0.03	64	0.884455	10		2
34	40.75	0.52	0.005	0.5	0.75	0.03	64	0.859532	10		2
34	41	0.52	0.005	0.5	0.75	0.03	64	0.835571	10		2
34	41.25	0.52	0.005	0.5	0.75	0.03	64	0.792055	10		2
34	41.5	0.52	0.005	0.5	0.75	0.03	64	0.784804	10		2
34	41.75	0.52	0.005	0.5	0.75	0.03	64	0.777571	10		2
34	42	0.52	0.005	0.5	0.75	0.03	64	0.755794	10		2
34	42.25	0.52	0.005	0.5	0.75	0.03	64	0.741343	10		2
34	42.5	0.52	0.005	0.5	0.75	0.03	64	0.679849	10		2
34	42.75	0.52	0.005	0.5	0.75	0.03	64	0.632107	10		2
34	43	0.52	0.005	0.5	0.75	0.03	64	0.621588	10		2
34	38	0.53	0.005	0.5	0.75	0.03	64	0.825816	10		2
34	38.25	0.53	0.005	0.5	0.75	0.03	64	0.81762	10		2
34	38.5	0.53	0.005	0.5	0.75	0.03	64	0.775303	10		2
34	38.75	0.53	0.005	0.5	0.75	0.03	64	0.781034	10		2
34	39	0.53	0.005	0.5	0.75	0.03	64	0.839315	10		2
34	39.25	0.53	0.005	0.5	0.75	0.03	64	0.883481	10		2
34	39.5	0.53	0.005	0.5	0.75	0.03	64	0.883092	10		2
34	39.75	0.53	0.005	0.5	0.75	0.03	64	0.898849	10		2
34	40	0.53	0.005	0.5	0.75	0.03	64	0.914231	10		2
34	40.25	0.53	0.005	0.5	0.75	0.03	64	0.905167	10		2
34	40.5	0.53	0.005	0.5	0.75	0.03	64	0.876516	10		2
34	40.75	0.53	0.005	0.5	0.75	0.03	64	0.849069	10		2
34	41	0.53	0.005	0.5	0.75	0.03	64	0.81637	10		2
34	41.25	0.53	0.005	0.5	0.75	0.03	64	0.767044	10		2
34	41.5	0.53	0.005	0.5	0.75	0.03	64	0.760056	10		2
34	41.75	0.53	0.005	0.5	0.75	0.03	64	0.753359	10		2
34	42	0.53	0.005	0.5	0.75	0.03	64	0.74058	10		2
34	42.25	0.53	0.005	0.5	0.75	0.03	64	0.723485	10		2
34	42.5	0.53	0.005	0.5	0.75	0.03	64	0.661301	10		2
34	42.75	0.53	0.005	0.5	0.75	0.03	64	0.612867	10		2
34	43	0.53	0.005	0.5	0.75	0.03	64	0.598343	10		2
34	38	0.54	0.005	0.5	0.75	0.03	64	0.820859	10		2
34	38.25	0.54	0.005	0.5	0.75	0.03	64	0.812182	10		2
34	38.5	0.54	0.005	0.5	0.75	0.03	64	0.773308	10		2
34	38.75	0.54	0.005	0.5	0.75	0.03	64	0.778817	10		2
34	39	0.54	0.005	0.5	0.75	0.03	64	0.828487	10		2
34	39.25	0.54	0.005	0.5	0.75	0.03	64	0.872852	10		2
34	39.5	0.54	0.005	0.5	0.75	0.03	64	0.878725	10		2
34	39.75	0.54	0.005	0.5	0.75	0.03	64	0.905091	10		2
34	40	0.54	0.005	0.5	0.75	0.03	64	0.917503	10		2
34	40.25	0.54	0.005	0.5	0.75	0.03	64	0.908994	10		2

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Fig. 12B

Crown Angle	Pavillion Angle	Table Size	Culet Size	Star Length	Lower Girdle Length	Girdle Thickness	# of Girdle Facets	DCLR2	Wavelength Sampling Interval (nm)	Brightness Cutoff Threshold Factor
34	40.5	0.54	0.005	0.5	0.75	0.03	64	0.869909	10	2
34	40.75	0.54	0.005	0.5	0.75	0.03	64	0.840489	10	2
34	41	0.54	0.005	0.5	0.75	0.03	64	0.804084	10	2
34	41.25	0.54	0.005	0.5	0.75	0.03	64	0.747225	10	2
34	41.5	0.54	0.005	0.5	0.75	0.03	64	0.728934	10	2
34	41.75	0.54	0.005	0.5	0.75	0.03	64	0.721268	10	2
34	42	0.54	0.005	0.5	0.75	0.03	64	0.723959	10	2
34	42.25	0.54	0.005	0.5	0.75	0.03	64	0.712998	10	2
34	42.5	0.54	0.005	0.5	0.75	0.03	64	0.648709	10	2
34	42.75	0.54	0.005	0.5	0.75	0.03	64	0.596708	10	2
34	43	0.54	0.005	0.5	0.75	0.03	64	0.577741	10	2
34	38	0.55	0.005	0.5	0.75	0.03	64	0.814714	10	2
34	38.25	0.55	0.005	0.5	0.75	0.03	64	0.801091	10	2
34	38.5	0.55	0.005	0.5	0.75	0.03	64	0.771957	10	2
34	38.75	0.55	0.005	0.5	0.75	0.03	64	0.771773	10	2
34	39	0.55	0.005	0.5	0.75	0.03	64	0.816006	10	2
34	39.25	0.55	0.005	0.5	0.75	0.03	64	0.860403	10	2
34	39.5	0.55	0.005	0.5	0.75	0.03	64	0.874857	10	2
34	39.75	0.55	0.005	0.5	0.75	0.03	64	0.904774	10	2
34	40	0.55	0.005	0.5	0.75	0.03	64	0.917908	10	2
34	40.25	0.55	0.005	0.5	0.75	0.03	64	0.902202	10	2
34	40.5	0.55	0.005	0.5	0.75	0.03	64	0.865573	10	2
34	40.75	0.55	0.005	0.5	0.75	0.03	64	0.836369	10	2
34	41	0.55	0.005	0.5	0.75	0.03	64	0.797574	10	2
34	41.25	0.55	0.005	0.5	0.75	0.03	64	0.733143	10	2
34	41.5	0.55	0.005	0.5	0.75	0.03	64	0.716023	10	2
34	41.75	0.55	0.005	0.5	0.75	0.03	64	0.704124	10	2
34	42	0.55	0.005	0.5	0.75	0.03	64	0.70276	10	2
34	42.25	0.55	0.005	0.5	0.75	0.03	64	0.698674	10	2
34	42.5	0.55	0.005	0.5	0.75	0.03	64	0.64128	10	2
34	42.75	0.55	0.005	0.5	0.75	0.03	64	0.585637	10	2
34	43	0.55	0.005	0.5	0.75	0.03	64	0.562732	10	2
34	38	0.56	0.005	0.5	0.75	0.03	64	0.810342	10	2
34	38.25	0.56	0.005	0.5	0.75	0.03	64	0.79447	10	2
34	38.5	0.56	0.005	0.5	0.75	0.03	64	0.76528	10	2
34	38.75	0.56	0.005	0.5	0.75	0.03	64	0.765748	10	2
34	39	0.56	0.005	0.5	0.75	0.03	64	0.810468	10	2
34	39.25	0.56	0.005	0.5	0.75	0.03	64	0.851028	10	2
34	39.5	0.56	0.005	0.5	0.75	0.03	64	0.868444	10	2
34	39.75	0.56	0.005	0.5	0.75	0.03	64	0.901324	10	2
34	40	0.56	0.005	0.5	0.75	0.03	64	0.908634	10	2
34	40.25	0.56	0.005	0.5	0.75	0.03	64	0.897934	10	2
34	40.5	0.56	0.005	0.5	0.75	0.03	64	0.863241	10	2
34	40.75	0.56	0.005	0.5	0.75	0.03	64	0.831788	10	2
34	41	0.56	0.005	0.5	0.75	0.03	64	0.794494	10	2
34	41.25	0.56	0.005	0.5	0.75	0.03	64	0.728545	10	2
34	41.5	0.56	0.005	0.5	0.75	0.03	64	0.714573	10	2
34	41.75	0.56	0.005	0.5	0.75	0.03	64	0.700948	10	2
34	42	0.56	0.005	0.5	0.75	0.03	64	0.688704	10	2
34	42.25	0.56	0.005	0.5	0.75	0.03	64	0.6823	10	2
34	42.5	0.56	0.005	0.5	0.75	0.03	64	0.630612	10	2
34	42.75	0.56	0.005	0.5	0.75	0.03	64	0.584443	10	2

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Fig. 12 C

Crown Angle	Pavilion Angle	Table Size	Culet Size	Star Length	Lower Girdle Length	Girdle Thickness	# of Girdle Facets	DCLR2	Wavelength Sampling Interval (nm)	Brightness Cutoff Threshold Factor
34	43	0.56	0.005	0.5	0.75	0.03	64	0.554585	10	2
34	38	0.57	0.005	0.5	0.75	0.03	64	0.799847	10	2
34	38.25	0.57	0.005	0.5	0.75	0.03	64	0.785196	10	2
34	38.5	0.57	0.005	0.5	0.75	0.03	64	0.757498	10	2
34	38.75	0.57	0.005	0.5	0.75	0.03	64	0.767361	10	2
34	39	0.57	0.005	0.5	0.75	0.03	64	0.813698	10	2
34	39.25	0.57	0.005	0.5	0.75	0.03	64	0.847284	10	2
34	39.5	0.57	0.005	0.5	0.75	0.03	64	0.859142	10	2
34	39.75	0.57	0.005	0.5	0.75	0.03	64	0.893763	10	2
34	40	0.57	0.005	0.5	0.75	0.03	64	0.902374	10	2
34	40.25	0.57	0.005	0.5	0.75	0.03	64	0.892721	10	2
34	40.5	0.57	0.005	0.5	0.75	0.03	64	0.863267	10	2
34	40.75	0.57	0.005	0.5	0.75	0.03	64	0.835853	10	2
34	41	0.57	0.005	0.5	0.75	0.03	64	0.798168	10	2
34	41.25	0.57	0.005	0.5	0.75	0.03	64	0.727064	10	2
34	41.5	0.57	0.005	0.5	0.75	0.03	64	0.711888	10	2
34	41.75	0.57	0.005	0.5	0.75	0.03	64	0.698537	10	2
34	42	0.57	0.005	0.5	0.75	0.03	64	0.68543	10	2
34	42.25	0.57	0.005	0.5	0.75	0.03	64	0.667086	10	2
34	42.5	0.57	0.005	0.5	0.75	0.03	64	0.614259	10	2
34	42.75	0.57	0.005	0.5	0.75	0.03	64	0.578013	10	2
34	43	0.57	0.005	0.5	0.75	0.03	64	0.55583	10	2
34	38	0.58	0.005	0.5	0.75	0.03	64	0.77155	10	2
34	38.25	0.58	0.005	0.5	0.75	0.03	64	0.770125	10	2
34	38.5	0.58	0.005	0.5	0.75	0.03	64	0.750826	10	2
34	38.75	0.58	0.005	0.5	0.75	0.03	64	0.776609	10	2
34	39	0.58	0.005	0.5	0.75	0.03	64	0.822064	10	2
34	39.25	0.58	0.005	0.5	0.75	0.03	64	0.845895	10	2
34	39.5	0.58	0.005	0.5	0.75	0.03	64	0.845349	10	2
34	39.75	0.58	0.005	0.5	0.75	0.03	64	0.880472	10	2
34	40	0.58	0.005	0.5	0.75	0.03	64	0.898266	10	2
34	40.25	0.58	0.005	0.5	0.75	0.03	64	0.895248	10	2
34	40.5	0.58	0.005	0.5	0.75	0.03	64	0.871497	10	2
34	40.75	0.58	0.005	0.5	0.75	0.03	64	0.841391	10	2
34	41	0.58	0.005	0.5	0.75	0.03	64	0.798846	10	2
34	41.25	0.58	0.005	0.5	0.75	0.03	64	0.724288	10	2
34	41.5	0.58	0.005	0.5	0.75	0.03	64	0.708505	10	2
34	41.75	0.58	0.005	0.5	0.75	0.03	64	0.69511	10	2
34	42	0.58	0.005	0.5	0.75	0.03	64	0.683728	10	2
34	42.25	0.58	0.005	0.5	0.75	0.03	64	0.648917	10	2
34	42.5	0.58	0.005	0.5	0.75	0.03	64	0.603822	10	2
34	42.75	0.58	0.005	0.5	0.75	0.03	64	0.566235	10	2
34	43	0.58	0.005	0.5	0.75	0.03	64	0.549192	10	2
34	38	0.59	0.005	0.5	0.75	0.03	64	0.739426	10	2
34	38.25	0.59	0.005	0.5	0.75	0.03	64	0.74518	10	2
34	38.5	0.59	0.005	0.5	0.75	0.03	64	0.754325	10	2
34	38.75	0.59	0.005	0.5	0.75	0.03	64	0.787261	10	2
34	39	0.59	0.005	0.5	0.75	0.03	64	0.831711	10	2
34	39.25	0.59	0.005	0.5	0.75	0.03	64	0.845679	10	2
34	39.5	0.59	0.005	0.5	0.75	0.03	64	0.832287	10	2
34	39.75	0.59	0.005	0.5	0.75	0.03	64	0.875182	10	2
34	40	0.59	0.005	0.5	0.75	0.03	64	0.901357	10	2

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Fig. 12 D

Crown Angle	Pavillion Angle	Table Size	Culet Size	Star Length	Lower Girdle Length	Girdle Thickness	# of Facets	DCLR2	Wavelength Sampling Interval (nm)	Brightness Cutoff Threshold Factor
34	40.25	0.59	0.005	0.5	0.75	0.03	64	0.898708	10	2
34	40.5	0.59	0.005	0.5	0.75	0.03	64	0.876342	10	2
34	40.75	0.59	0.005	0.5	0.75	0.03	64	0.846584	10	2
34	41	0.59	0.005	0.5	0.75	0.03	64	0.799008	10	2
34	41.25	0.59	0.005	0.5	0.75	0.03	64	0.720892	10	2
34	41.5	0.59	0.005	0.5	0.75	0.03	64	0.704366	10	2
34	41.75	0.59	0.005	0.5	0.75	0.03	64	0.690144	10	2
34	42	0.59	0.005	0.5	0.75	0.03	64	0.678995	10	2
34	42.25	0.59	0.005	0.5	0.75	0.03	64	0.644305	10	2
34	42.5	0.59	0.005	0.5	0.75	0.03	64	0.601934	10	2
34	42.75	0.59	0.005	0.5	0.75	0.03	64	0.559082	10	2
34	43	0.59	0.005	0.5	0.75	0.03	64	0.538236	10	2
34	38	0.6	0.005	0.5	0.75	0.03	64	0.715373	10	2
34	38.25	0.6	0.005	0.5	0.75	0.03	64	0.727763	10	2
34	38.5	0.6	0.005	0.5	0.75	0.03	64	0.7517	10	2
34	38.75	0.6	0.005	0.5	0.75	0.03	64	0.796534	10	2
34	39	0.6	0.005	0.5	0.75	0.03	64	0.839021	10	2
34	39.25	0.6	0.005	0.5	0.75	0.03	64	0.844210	10	2
34	39.5	0.6	0.005	0.5	0.75	0.03	64	0.829233	10	2
34	39.75	0.6	0.005	0.5	0.75	0.03	64	0.870356	10	2
34	40	0.6	0.005	0.5	0.75	0.03	64	0.900867	10	2
34	40.25	0.6	0.005	0.5	0.75	0.03	64	0.900702	10	2
34	40.5	0.6	0.005	0.5	0.75	0.03	64	0.877821	10	2
34	40.75	0.6	0.005	0.5	0.75	0.03	64	0.850258	10	2
34	41	0.6	0.005	0.5	0.75	0.03	64	0.79833	10	2
34	41.25	0.6	0.005	0.5	0.75	0.03	64	0.7168	10	2
34	41.5	0.6	0.005	0.5	0.75	0.03	64	0.699282	10	2
34	41.75	0.6	0.005	0.5	0.75	0.03	64	0.684268	10	2
34	42	0.6	0.005	0.5	0.75	0.03	64	0.675258	10	2
34	42.25	0.6	0.005	0.5	0.75	0.03	64	0.642043	10	2
34	42.5	0.6	0.005	0.5	0.75	0.03	64	0.602407	10	2
34	42.75	0.6	0.005	0.5	0.75	0.03	64	0.55821	10	2
34	43	0.6	0.005	0.5	0.75	0.03	64	0.529726	10	2
34	38	0.61	0.005	0.5	0.75	0.03	64	0.707912	10	2
34	38.25	0.61	0.005	0.5	0.75	0.03	64	0.713188	10	2
34	38.5	0.61	0.005	0.5	0.75	0.03	64	0.747195	10	2
34	38.75	0.61	0.005	0.5	0.75	0.03	64	0.802808	10	2
34	39	0.61	0.005	0.5	0.75	0.03	64	0.848035	10	2
34	39.25	0.61	0.005	0.5	0.75	0.03	64	0.840474	10	2
34	39.5	0.61	0.005	0.5	0.75	0.03	64	0.826305	10	2
34	39.75	0.61	0.005	0.5	0.75	0.03	64	0.865902	10	2
34	40	0.61	0.005	0.5	0.75	0.03	64	0.897907	10	2
34	40.25	0.61	0.005	0.5	0.75	0.03	64	0.90003	10	2
34	40.5	0.61	0.005	0.5	0.75	0.03	64	0.875527	10	2
34	40.75	0.61	0.005	0.5	0.75	0.03	64	0.852055	10	2
34	41	0.61	0.005	0.5	0.75	0.03	64	0.796219	10	2
34	41.25	0.61	0.005	0.5	0.75	0.03	64	0.711018	10	2
34	41.5	0.61	0.005	0.5	0.75	0.03	64	0.692775	10	2
34	41.75	0.61	0.005	0.5	0.75	0.03	64	0.678103	10	2
34	42	0.61	0.005	0.5	0.75	0.03	64	0.669315	10	2
34	42.25	0.61	0.005	0.5	0.75	0.03	64	0.639022	10	2
34	42.5	0.61	0.005	0.5	0.75	0.03	64	0.602829	10	2

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Fig. 12 E

Crown Angle	Pavillion Angle	Table Size	Culet Size	Star Length	Lower Girdle Length	Girdle Thickness	# of Girdle Facets	DCLR2	Wavelength Sampling Interval (nm)	Brightness Cutoff Threshold Factor
34	42.75	0.61	0.005	0.5	0.75	0.03	64	0.557297	10	2
34	43	0.61	0.005	0.5	0.75	0.03	64	0.524737	10	2
34	38	0.62	0.005	0.5	0.75	0.03	64	0.706711	10	2
34	38.25	0.62	0.005	0.5	0.75	0.03	64	0.702224	10	2
34	38.5	0.62	0.005	0.5	0.75	0.03	64	0.743246	10	2
34	38.75	0.62	0.005	0.5	0.75	0.03	64	0.80093	10	2
34	39	0.62	0.005	0.5	0.75	0.03	64	0.853166	10	2
34	39.25	0.62	0.005	0.5	0.75	0.03	64	0.837159	10	2
34	39.5	0.62	0.005	0.5	0.75	0.03	64	0.828514	10	2
34	39.75	0.62	0.005	0.5	0.75	0.03	64	0.863602	10	2
34	40	0.62	0.005	0.5	0.75	0.03	64	0.891697	10	2
34	40.25	0.62	0.005	0.5	0.75	0.03	64	0.895706	10	2
34	40.5	0.62	0.005	0.5	0.75	0.03	64	0.872329	10	2
34	40.75	0.62	0.005	0.5	0.75	0.03	64	0.851519	10	2
34	41	0.62	0.005	0.5	0.75	0.03	64	0.79318	10	2
34	41.25	0.62	0.005	0.5	0.75	0.03	64	0.703072	10	2
34	41.5	0.62	0.005	0.5	0.75	0.03	64	0.685047	10	2
34	41.75	0.62	0.005	0.5	0.75	0.03	64	0.671854	10	2
34	42	0.62	0.005	0.5	0.75	0.03	64	0.663322	10	2
34	42.25	0.62	0.005	0.5	0.75	0.03	64	0.633063	10	2
34	42.5	0.62	0.005	0.5	0.75	0.03	64	0.601153	10	2
34	42.75	0.62	0.005	0.5	0.75	0.03	64	0.554241	10	2
34	43	0.62	0.005	0.5	0.75	0.03	64	0.520811	10	2
34	38	0.63	0.005	0.5	0.75	0.03	64	0.707739	10	2
34	38.25	0.63	0.005	0.5	0.75	0.03	64	0.710567	10	2
34	38.5	0.63	0.005	0.5	0.75	0.03	64	0.737919	10	2
34	38.75	0.63	0.005	0.5	0.75	0.03	64	0.798747	10	2
34	39	0.63	0.005	0.5	0.75	0.03	64	0.848361	10	2
34	39.25	0.63	0.005	0.5	0.75	0.03	64	0.836786	10	2
34	39.5	0.63	0.005	0.5	0.75	0.03	64	0.825664	10	2
34	39.75	0.63	0.005	0.5	0.75	0.03	64	0.860696	10	2
34	40	0.63	0.005	0.5	0.75	0.03	64	0.884747	10	2
34	40.25	0.63	0.005	0.5	0.75	0.03	64	0.869581	10	2
34	40.5	0.63	0.005	0.5	0.75	0.03	64	0.868553	10	2
34	40.75	0.63	0.005	0.5	0.75	0.03	64	0.847611	10	2
34	41	0.63	0.005	0.5	0.75	0.03	64	0.789609	10	2
34	41.25	0.63	0.005	0.5	0.75	0.03	64	0.693305	10	2
34	41.5	0.63	0.005	0.5	0.75	0.03	64	0.677208	10	2
34	41.75	0.63	0.005	0.5	0.75	0.03	64	0.664778	10	2
34	42	0.63	0.005	0.5	0.75	0.03	64	0.657323	10	2
34	42.25	0.63	0.005	0.5	0.75	0.03	64	0.623253	10	2
34	42.5	0.63	0.005	0.5	0.75	0.03	64	0.593124	10	2
34	42.75	0.63	0.005	0.5	0.75	0.03	64	0.551869	10	2
34	43	0.63	0.005	0.5	0.75	0.03	64	0.516824	10	2
34	38	0.64	0.005	0.5	0.75	0.03	64	0.710207	10	2
34	38.25	0.64	0.005	0.5	0.75	0.03	64	0.723088	10	2
34	38.5	0.64	0.005	0.5	0.75	0.03	64	0.732374	10	2
34	38.75	0.64	0.005	0.5	0.75	0.03	64	0.761989	10	2
34	39	0.64	0.005	0.5	0.75	0.03	64	0.840977	10	2
34	39.25	0.64	0.005	0.5	0.75	0.03	64	0.822409	10	2
34	39.5	0.64	0.005	0.5	0.75	0.03	64	0.828563	10	2
34	39.75	0.64	0.005	0.5	0.75	0.03	64	0.856142	10	2

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Fig. 12F

Crown Angle	Pavillion Angle	Table Size	Culet Size	Star Length	Lower Girdle Length	Girdle Thickness	# of Girdle Facets	DCLR2	Wavelength Sampling Interval (nm)	Brightness Cutoff Threshold Factor
34	40	0.64	0.005	0.5	0.75	0.03	64	0.879889	10	2
34	40.25	0.64	0.005	0.5	0.75	0.03	64	0.879822	10	2
34	40.5	0.64	0.005	0.5	0.75	0.03	64	0.883085	10	2
34	40.75	0.64	0.005	0.5	0.75	0.03	64	0.840276	10	2
34	41	0.64	0.005	0.5	0.75	0.03	64	0.784399	10	2
34	41.25	0.64	0.005	0.5	0.75	0.03	64	0.683366	10	2
34	41.5	0.64	0.005	0.5	0.75	0.03	64	0.669707	10	2
34	41.75	0.64	0.005	0.5	0.75	0.03	64	0.65738	10	2
34	42	0.64	0.005	0.5	0.75	0.03	64	0.646081	10	2
34	42.25	0.64	0.005	0.5	0.75	0.03	64	0.613999	10	2
34	42.5	0.64	0.005	0.5	0.75	0.03	64	0.581597	10	2
34	42.75	0.64	0.005	0.5	0.75	0.03	64	0.545589	10	2
34	43	0.64	0.005	0.5	0.75	0.03	64	0.510111	10	2
34	38	0.65	0.005	0.5	0.75	0.03	64	0.715558	10	2
34	38.25	0.65	0.005	0.5	0.75	0.03	64	0.736196	10	2
34	38.5	0.65	0.005	0.5	0.75	0.03	64	0.745934	10	2
34	38.75	0.65	0.005	0.5	0.75	0.03	64	0.785599	10	2
34	39	0.65	0.005	0.5	0.75	0.03	64	0.833372	10	2
34	39.25	0.65	0.005	0.5	0.75	0.03	64	0.802325	10	2
34	39.5	0.65	0.005	0.5	0.75	0.03	64	0.822724	10	2
34	39.75	0.65	0.005	0.5	0.75	0.03	64	0.85561	10	2
34	40	0.65	0.005	0.5	0.75	0.03	64	0.874749	10	2
34	40.25	0.65	0.005	0.5	0.75	0.03	64	0.871053	10	2
34	40.5	0.65	0.005	0.5	0.75	0.03	64	0.856115	10	2
34	40.75	0.65	0.005	0.5	0.75	0.03	64	0.831199	10	2
34	41	0.65	0.005	0.5	0.75	0.03	64	0.775398	10	2
34	41.25	0.65	0.005	0.5	0.75	0.03	64	0.674185	10	2
34	41.5	0.65	0.005	0.5	0.75	0.03	64	0.66234	10	2
34	41.75	0.65	0.005	0.5	0.75	0.03	64	0.649618	10	2
34	42	0.65	0.005	0.5	0.75	0.03	64	0.625128	10	2
34	42.25	0.65	0.005	0.5	0.75	0.03	64	0.608534	10	2
34	42.5	0.65	0.005	0.5	0.75	0.03	64	0.573906	10	2
34	42.75	0.65	0.005	0.5	0.75	0.03	64	0.538178	10	2
34	43	0.65	0.005	0.5	0.75	0.03	64	0.510028	10	2

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Fig. 13

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Fig. 14

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Fig. 15

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Fig. 16

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Fig. 17

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Fig. 18

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Fig. 19

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Fig. 20

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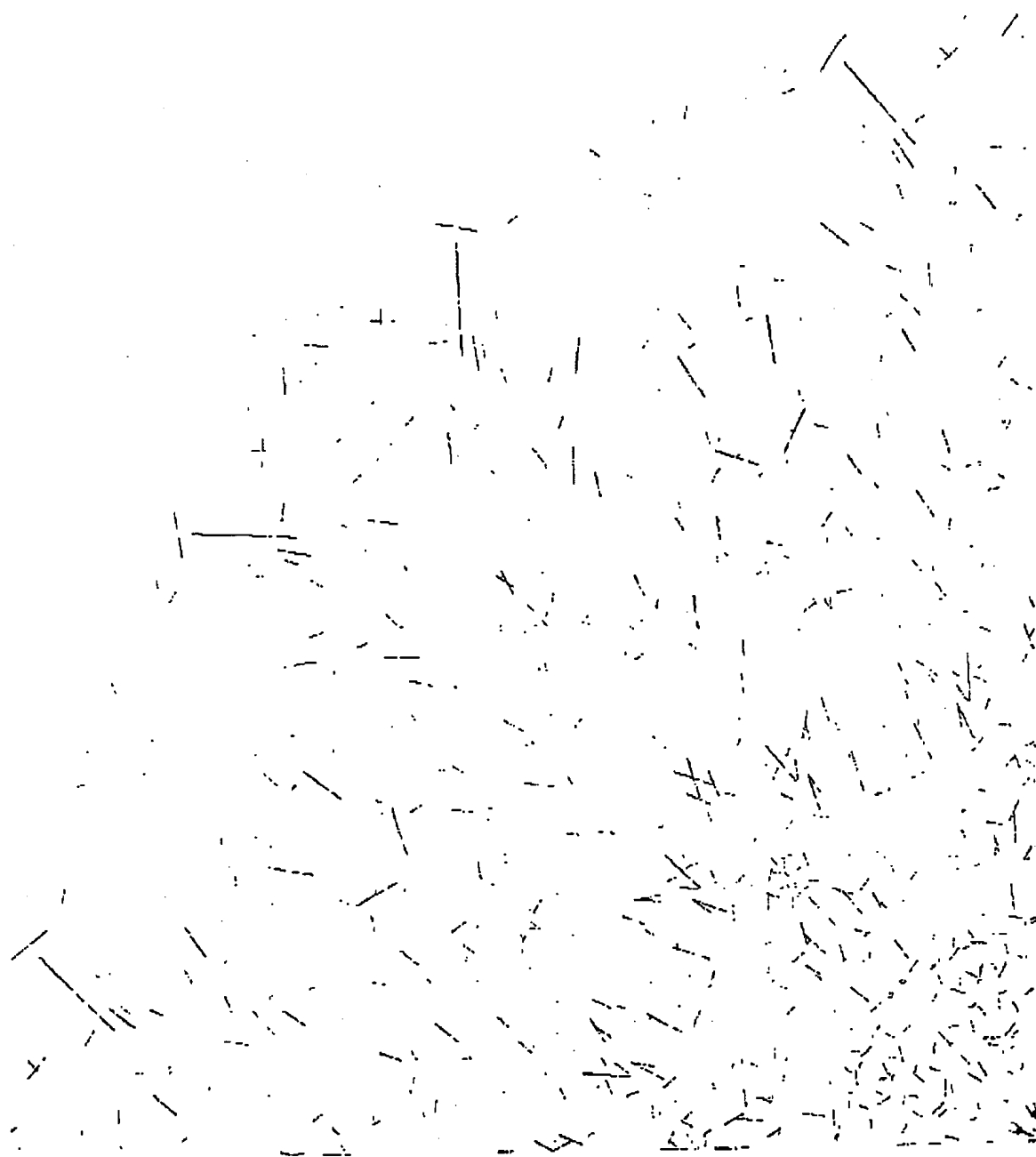


Fig. 21

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Fig. 22

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Fig. 26A													
Culet Size				Culet Size				DCLR4	DCLR3	DCLR2			
34	41	0.56	0	0.5	0.75	0.03	64	0	5.284192	2.355428	0.868906	10	4
34	41	0.56	0.01	0.5	0.75	0.03	64	0.01	5.25454	2.335876	0.857219	10	4
34	41	0.56	0.02	0.5	0.75	0.03	64	0.02	5.213373	2.316395	0.844447	10	4
34	41	0.56	0.03	0.5	0.75	0.03	64	0.03	5.174934	2.293616	0.830896	10	4
34	41	0.56	0.04	0.5	0.75	0.03	64	0.04	5.119718	2.258964	0.816658	10	4
34	41	0.56	0.05	0.5	0.75	0.03	64	0.05	5.046029	2.224922	0.802315	10	4
34	41	0.56	0.06	0.5	0.75	0.03	64	0.06	4.980114	2.194238	0.787939	10	4
34	41	0.56	0.07	0.5	0.75	0.03	64	0.07	4.915477	2.168457	0.772775	10	4
34	41	0.56	0.08	0.5	0.75	0.03	64	0.08	4.875271	2.149683	0.756819	10	4
34	41	0.56	0.09	0.5	0.75	0.03	64	0.09	4.826089	2.133423	0.740934	10	4
34	41	0.56	0.1	0.5	0.75	0.03	64	0.1	4.78476	2.111817	0.726574	10	4
34	41	0.56	0.11	0.5	0.75	0.03	64	0.11	4.761126	2.0903	0.713786	10	4
34	41	0.56	0.12	0.5	0.75	0.03	64	0.12	4.744847	2.065745	0.702585	10	4
34	41	0.56	0.13	0.5	0.75	0.03	64	0.13	4.717384	2.049073	0.693117	10	4
34	41	0.56	0.14	0.5	0.75	0.03	64	0.14	4.671139	2.018712	0.686312	10	4
34	41	0.56	0.15	0.5	0.75	0.03	64	0.15	4.604082	1.974939	0.680394	10	4
34	41	0.56	0.16	0.5	0.75	0.03	64	0.16	4.520027	1.921601	0.67369	10	4
34	41	0.56	0.17	0.5	0.75	0.03	64	0.17	4.449352	1.870071	0.667312	10	4
34	41	0.56	0.18	0.5	0.75	0.03	64	0.18	4.357821	1.830536	0.662123	10	4
34	41	0.56	0.19	0.5	0.75	0.03	64	0.19	4.306298	1.802996	0.656936	10	4
34	41	0.56	0.2	0.5	0.75	0.03	64	0.2	4.264232	1.795603	0.650633	10	4
									DCLR3				
34	41	0.56	0	0.5	0.75	0.03	64	0	2.355428	10	3		
34	41	0.56	0.01	0.5	0.75	0.03	64	0.01	2.335876	10	3		
34	41	0.56	0.02	0.5	0.75	0.03	64	0.02	2.316395	10	3		
34	41	0.56	0.03	0.5	0.75	0.03	64	0.03	2.293616	10	3		
34	41	0.56	0.04	0.5	0.75	0.03	64	0.04	2.258964	10	3		
34	41	0.56	0.05	0.5	0.75	0.03	64	0.05	2.224922	10	3		
34	41	0.56	0.06	0.5	0.75	0.03	64	0.06	2.194238	10	3		
34	41	0.56	0.07	0.5	0.75	0.03	64	0.07	2.168457	10	3		
34	41	0.56	0.08	0.5	0.75	0.03	64	0.08	2.149683	10	3		
34	41	0.56	0.09	0.5	0.75	0.03	64	0.09	2.133423	10	3		
34	41	0.56	0.1	0.5	0.75	0.03	64	0.1	2.111817	10	3		
34	41	0.56	0.11	0.5	0.75	0.03	64	0.11	2.0903	10	3		
34	41	0.56	0.12	0.5	0.75	0.03	64	0.12	2.065745	10	3		
34	41	0.56	0.13	0.5	0.75	0.03	64	0.13	2.049073	10	3		
34	41	0.56	0.14	0.5	0.75	0.03	64	0.14	2.018712	10	3		
34	41	0.56	0.15	0.5	0.75	0.03	64	0.15	1.974939	10	3		
34	41	0.56	0.16	0.5	0.75	0.03	64	0.16	1.921601	10	3		
34	41	0.56	0.17	0.5	0.75	0.03	64	0.17	1.870071	10	3		
34	41	0.56	0.18	0.5	0.75	0.03	64	0.18	1.830536	10	3		
34	41	0.56	0.19	0.5	0.75	0.03	64	0.19	1.802996	10	3		
34	41	0.56	0.2	0.5	0.75	0.03	64	0.2	1.795603	10	3		

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Fig. 26B												
								DCLR2				
34	41	0.56	0	0.5	0.75	0.03	64	0	0.868906	10	2	
34	41	0.56	0.01	0.5	0.75	0.03	64	0.01	0.857219	10	2	
34	41	0.56	0.02	0.5	0.75	0.03	64	0.02	0.844447	10	2	
34	41	0.56	0.03	0.5	0.75	0.03	64	0.03	0.830896	10	2	
34	41	0.56	0.04	0.5	0.75	0.03	64	0.04	0.816658	10	2	
34	41	0.56	0.05	0.5	0.75	0.03	64	0.05	0.802315	10	2	
34	41	0.56	0.06	0.5	0.75	0.03	64	0.06	0.787939	10	2	
34	41	0.56	0.07	0.5	0.75	0.03	64	0.07	0.772775	10	2	
34	41	0.56	0.08	0.5	0.75	0.03	64	0.08	0.756819	10	2	
34	41	0.56	0.09	0.5	0.75	0.03	64	0.09	0.740934	10	2	
34	41	0.56	0.1	0.5	0.75	0.03	64	0.1	0.726574	10	2	
34	41	0.56	0.11	0.5	0.75	0.03	64	0.11	0.713786	10	2	
34	41	0.56	0.12	0.5	0.75	0.03	64	0.12	0.702585	10	2	
34	41	0.56	0.13	0.5	0.75	0.03	64	0.13	0.693117	10	2	
34	41	0.56	0.14	0.5	0.75	0.03	64	0.14	0.686312	10	2	
34	41	0.56	0.15	0.5	0.75	0.03	64	0.15	0.680394	10	2	
34	41	0.56	0.16	0.5	0.75	0.03	64	0.16	0.67369	10	2	
34	41	0.56	0.17	0.5	0.75	0.03	64	0.17	0.667312	10	2	
34	41	0.56	0.18	0.5	0.75	0.03	64	0.18	0.662123	10	2	
34	41	0.56	0.19	0.5	0.75	0.03	64	0.19	0.656936	10	2	
34	41	0.56	0.2	0.5	0.75	0.03	64	0.2	0.650633	10	2	